ORDER NO. EMID901287
A4

Service Manual

PCM Digital Piano

SX-PX55/PX55M

(M), (MC), (XM), (EN), (EH), (EF), (EZ), (EW), (EP), (EK), (XL), (XR), (XS), (XD), (X)

Photo: SX-PX55

AREAS

(M): U.S.A.	(EK): the United Kingdom
(MC): Canada	(XL): New Zealand
(XM): Mexico	(XR): Australia
(EN): Norway, Sweden, Denmark, Finland	(XS): Malaysia, Singapore, South Africa
(EH): Holland	(XD): Saudi Arabia
(EF): France, Austria, Italy, Belgium	(X): the Middle East, Indonesia, Hong Kong, the Philippines, Thailand, Taiwan
(EZ): Germany	
(EW): Switzerland	
(EP): Spain	

Specifications

CABINET	SX-PX55: BLACK, SX-PX55M: WALNUT
KEYBOARD	88 KEYS [32 NOTES POLYPHONIC (A maximum of 16 simultaneously pressed keys can be input.)]
SOUND	GRAND PIANO, UPRIGHT PIANO, E PIANO 1, 2, HARPSI, VIBES, PIPE ORGAN
BRILLIANCE	MELLOW, NORMAL, BRIGHT (7 STEP)
DIGITAL CELESTE	○
DIGITAL REVERB	PEDAL REVERB, ROOM, STAGE, HALL
TRANSPOSE	UP (+C♯, +D, +D♯, +E, +F, +F♯) DOWN (−B, −A♯, −A, −G♯, −G)
MIDI	PROGRAM CHANGE
MODE SET	MIDI ON.....OMNI ON, PROGRAM CHANGE, EFFECT, PEDAL OTHERS.....MIN RANGE, PIANO TUNING
TERMINALS	MIDI.....IN, OUT, THRU AUX IN .....input level 500mV 33KΩ R/R+L, L LINE OUT .....output level 1.5V 600Ω R/R+L, L OTHERS.....PEDAL IN, HEADPHONES JACK, AC IN
OTHERS	POWER SW, MAIN VOLUME, TUNE, INITIAL KEY
OUTPUT	20W×2
SPEAKERS	16cm (6-5/16″)×2, 6.5cm (2-9/16″)×2, [13cm×6cm (5-1/8″×2-3/8″)]×2
POWER REQUIREMENT	145W, 90W (NORTH AMERICA) AC 120/220/240V 50/60Hz, AC 120V 60Hz (NORTH AMERICA AND MEXICO)
DIMENSIONS (W×H×D)	137.3cm×82.1cm×50.8cm (54-1/16″×32-5/16″×20″)
NET WEIGHT	58.5Kg (129 lbs.)
ACCESSORIES	STAND, MUSIC RACK, AC CORD

*Specifications are subject to change without notice for further improvement.

Technics

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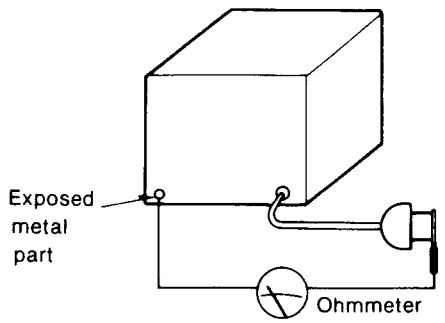
SAFETY PRECAUTION (This "safety precaution" is applied only in U.S.A.)

• Safety Precaution

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

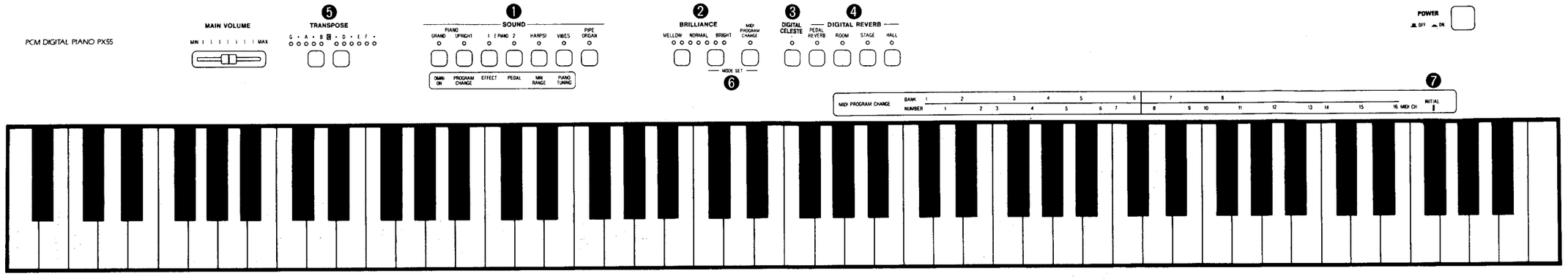
• Insulation Resistance Test

1. Unpulg the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screw heads, connectors, control shafts, handle brackets, etc..
   Mesurements should range from 4MΩ to infinity to all exposed parts.



Resistance = 4MΩ to ∞

ARRANGEMENT OF CONTROL PANEL



BASIC FUNCTION

❶ SOUND

Press one of the SOUND buttons to select the desired sound.
Each sound features Touch Response, which increases the volume and changes the timbre as the velocity-sensitive keyboard is played harder.
The tones from a maximum of 16 simultaneously pressed keys will sound, and then using the sustain pedal or sostenuto pedal, up to 32 notes can sound at one time.

- For the VIBES sound, up to 15 notes can sound at one time.
- The sounds can be mixed when two SOUND buttons are pressed simultaneously.

❷ BRILLIANCE

The BRILLIANCE allows you to select the brightness of the sound from 7 settings.
Pressing the right button increases the brightness; when the left button is pressed, the sound becomes softer.
Press both buttoms at the same time to return the brightness to the normal level.

❸ DIGITAL CELESTE

A celeste effect can be applied to give the sound greater depth.

❹ DIGITAL REVERB

DIGITAL REVERB applies a reverberation effect to the sound.
Select from four echo types—PEDAL REVERB, ROOM, STAGE and HALL.

- When the PEDAL REVERB button is on, a slight reverb effect is active. When the sustain pedal is pressed, the reverb effect is stronger.

❺ TRANSPOSE

The TRANSPOSE control is used to shift the tuning (key) of the entire instrument in semitone steps across an entire octave. Adjust the tuning by moving the slide control from the normal key of C.

❻ MODE SET, ❼ INTIAL KEY

When the MODE SET buttons are on, the following two modes can be set.

- If the INTIAL KEY is pressed at this time, the settings of the buttons, etc. will return to the initialized settings made by the manufacturer.

1. MIN RANGE

When this button is turned on, if a key is pressed very slowly, it may not produce any sound.

2. PIANO TUNING

When this button is on, the sound is a little lower for low notes as on a regular piano. When it is off, the tuning is even.

❽ SUSTAIN PEDAL

When a key is released while this pedal is depressed, the sound is sustained so that it lingers and slowly fades out.

- The tones of the far right keys are automatically sustained just like in an acoustic piano.

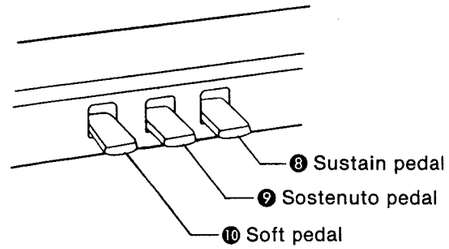
❾ SOSTENUTO PEDAL

The middle pedal is used as a sostenuto pedal. If the pedal is pressed while the keys are pressed, a sustain effect is applied to those notes only.

- For the PIPE ORGAN sound, the notes sound as long as the pedal is pressed.

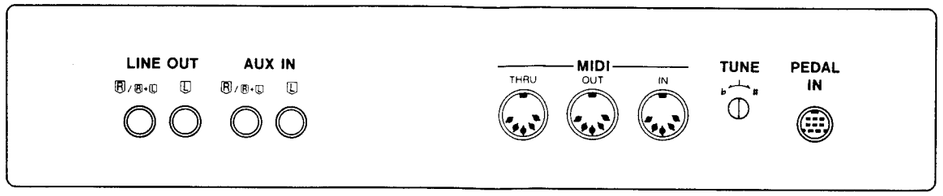
❿ SOFT PEDAL

When the pedal is depressed, the sound is softer and the volume is lower.



CONNECTION TERMINALS

(On the rear panel)



■ TUNE

During an ensemble performance with other instruments, fine adjustments of pitch can be made using this knob.

■ PEDAL IN

Connect the cord from the included stand to this terminal.

■ AUX IN (input level 500 mV, 33 KΩ)

Other instruments such as a rhythm machine or sound module can be connected to the piano so that the sound is output from the piano.
To receive monaural sound, connect instruments to the R/R+L terminal.

■ LINE OUT (output level 1.5 V 600Ω)

By plugging into a Technics Tone Cabinet or a high-power amplifier, the sound can be reproduced at high volume. (Use the R/R+L terminal when outputting monaural sound.)

■ PHONES

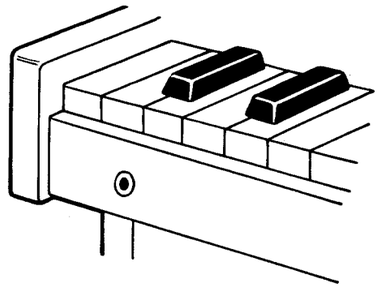
For silent practice headphones may be used.
When plugged in, the speaker system is automatically switched off, and sound is heard only through the headphones.

■ MIDI (Musical Instrument Digital Interface)

MIDI is standard specification that enables connection to equipment such as synthesizers and personal computers. Data transmission and reception are possible between the Technics Digital Piano instruments provided with MIDI terminals.

IN: The terminal that receivers data from external equipment.
OUT: The terminal that transmits data from the piano to external equipment.
THRU: The terminal that transfers data from the **IN** terminal directly to other equipment.

- Use a 5-pin DIN cord (less than 15 m long) for these connections.

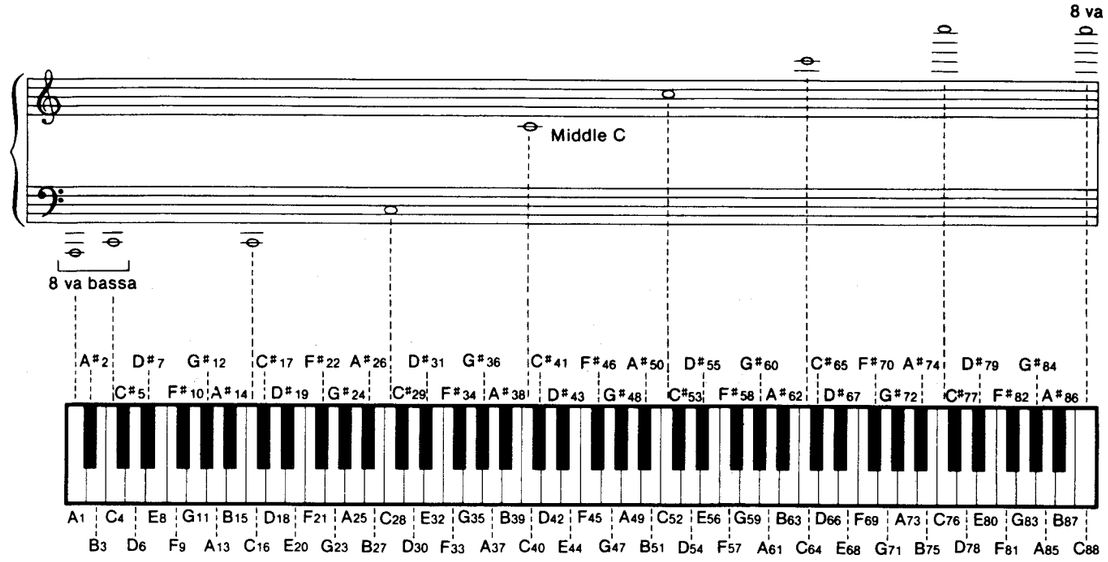


INITIAL SETTING

Initial setting function will be used to return to the original factory setting mode, reset the customer setting and irregular operations with following methodes.

[1] Press both MODE SET buttons at the same time. The indicators flash slowly.
[2] Press the INITIAL key.

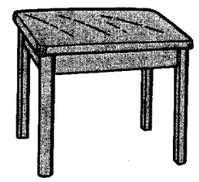
KEYBOARD RANGES



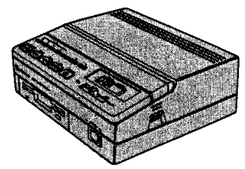
OPTIONS

PRODUCTS FOR SX-PX55

SZ-CP1
Bench



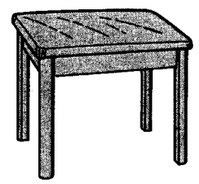
SZ-CP3
Bench



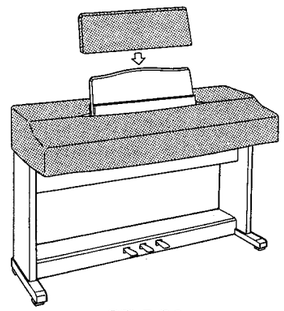
SY-MQ8
MIDI Sequencer

PRODUCTS FOR SX-PX55M

SZ-CP4M
Bench



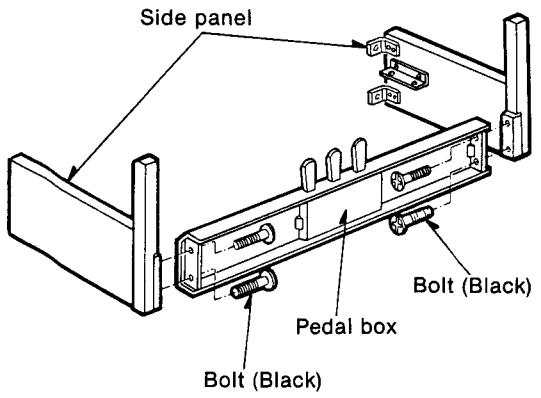
SZ-CP3M
Bench



SZ-DC2
Dust Cover

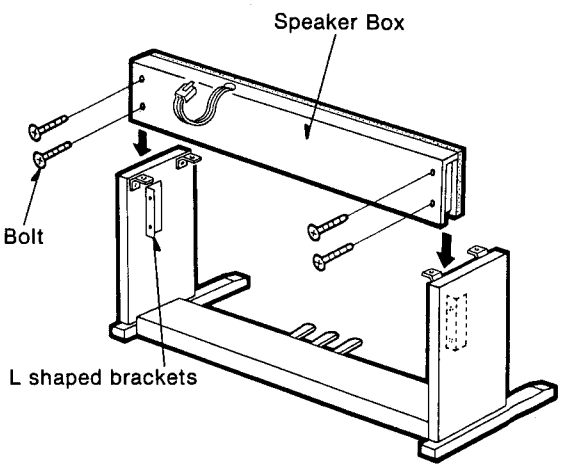
HOW TO ASSEMBLE THE PIANO

1 Built the side panels and the pedal box using the 4 black bolts.



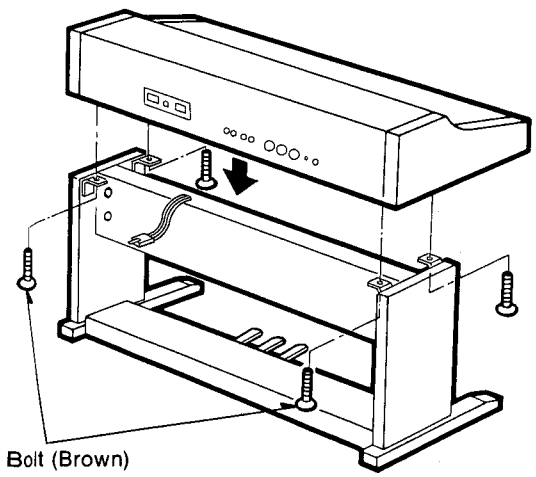
[Fig. 1]

2 Place the stand upright and mount the speaker box onto the L shaped brackets with 4 bolts. (Black bolts for model SX-PX55, Brown bolts for model SX-PX55M)



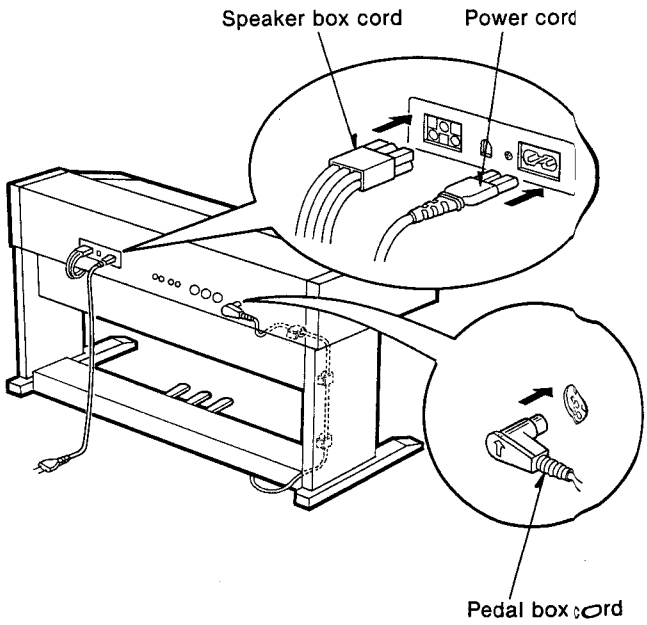
[Fig. 2]

3 Place the piano unit on the stand and secure it to the stand with 4 brown bolts.



[Fig. 3]

4 Connect the pedal box cord and speaker box cord to the each sockets located rear of the piano unit as shown below.

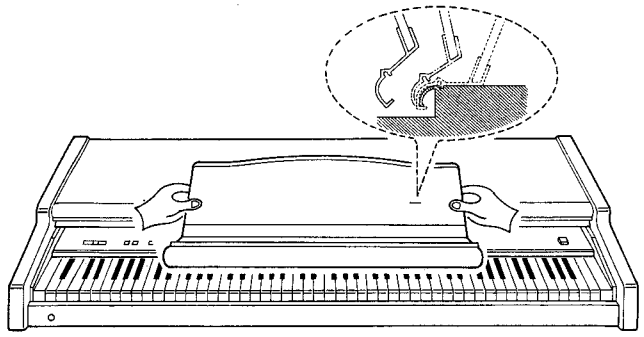


[Fig. 4]

DISASSEMBLY INSTRUCTIONS

1 Removing the Music Rack. (Fig. 5)

Remove the Music Rack as shown in Figure 5.



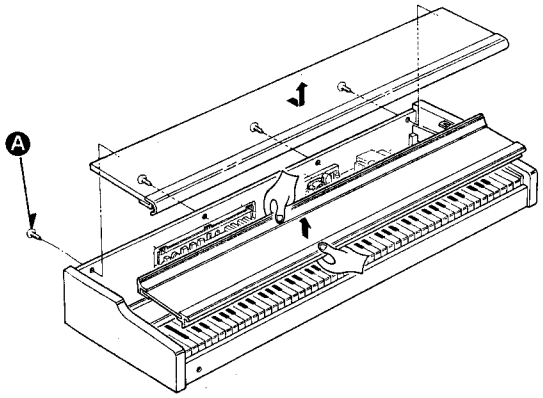
[Fig. 5]

2 Removing the Top Cover. (Fig. 6)

1. Remove the Top cover holding screws. (Ⓐ 4pcs.)
2. Slide the top cover forward and lift up. (As shown by the arrow.)

3 Removing the Keyboard Cover. (Fig. 6)

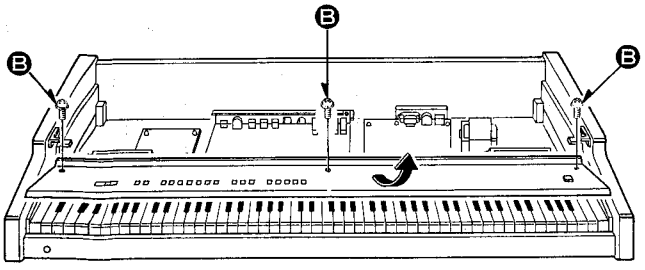
1. Remove the Top Cover. (See Step 2)
2. Lift the keyboard cover up.



[Fig. 6]

4 Removing the Control Panel. (Fig. 7)

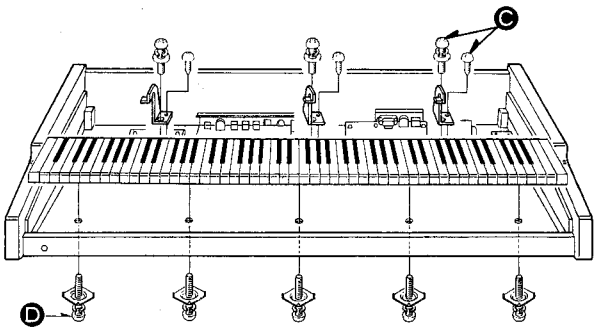
1. Remove the Top Cover. (See Step 2)
2. Remove the control panel holding screws. (Ⓑ 3pcs.)
3. Remove the control panel as shown in Figure 7.



[Fig. 7]

5 Removing the Keyboard assembly. (Fig. 8)

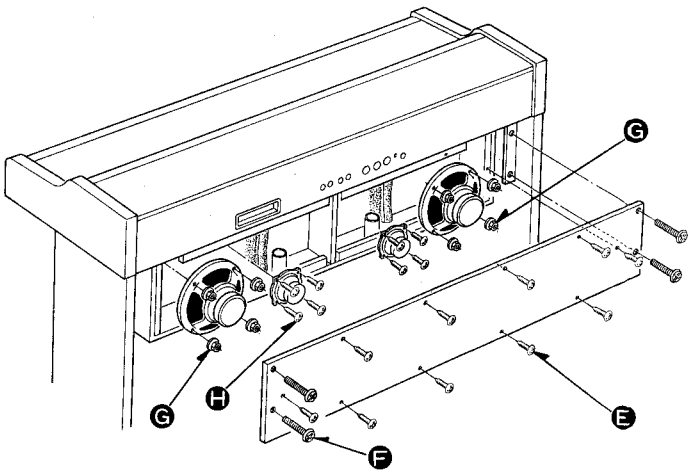
1. Remove the Top Cover. (See Step 2)
2. Remove the metal fittings holding screws. (Ⓒ 6pcs.)
3. Remove the keyboard ass'y holding screws located on the bottom of the cabinet. (Ⓓ 5pcs.)



[Fig. 8]

6 Removing the Speakers. (Fig. 9)

1. Remove the rear board of the speaker box mounting screws. (Ⓔ 10pcs. and Ⓕ 4pcs.)
   • Beware to fall off the speaker box. Since the speaker box is became free mounting from L-bracket of stand.
2. Remove the 16cm speakers mounting nuts. (Ⓖ 4pcs. each)
3. Remove the 6.5cm speakers mounting screws. (Ⓗ 4pcs. each)



[Fig. 9]

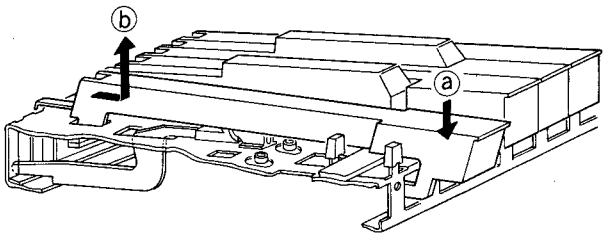
7 Key (s)

Disassembly: (Fig. 10)

1. Remove the Keyboard from the cabinet. (See Step 5)
2. To release the key claw.
   ⓐ Press the front of the key downward slightly.
   ⓑ Press the rear of the key forward gently.
3. To remove the key lift as shown in Figure 10.

NOTE:

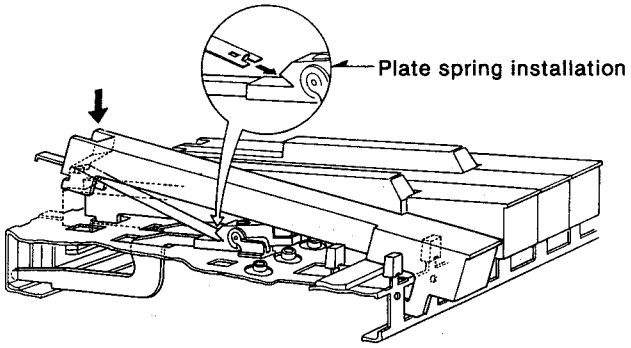
- The key claw can be broken easily. Do not apply undue force. Should a key claw break it can still be used, however, a replacement is recommended.
- If a black key is to be replaced it is necessary to remove both adjacent white keys.



[Fig. 10]

Assembly: (Fig. 11)

1. Insert the front part of the key into the chassis.
2. Insert the plate spring into the hammer notch as shown in Figure 11.
3. While slowly lowering the key into the chassis, insert the plate spring into the notch at rear of the key.
4. Carefully insert the key into the opening in the chassis and slide the key towards the rear to lock it in place.



[Fig. 11]

8 Removing the printed circuit boards. (Fig. 12)

MAIN P.C.B.

1. Remove the Top Cover. (See Step 2)
2. Remove the MAIN P.C.B. mounting screws on the rear panel. (❶ 2pcs.)
3. Release the 2 claws of P.C.B. holder.

DRV P.C.B.

1. Remove the Top Cover. (See Step 2)
2. Release the 4 claws of P.C.B. holder.

CP P.C.B.

1. Remove the Control panel. (See Step 4)
2. Remove the CP P.C.B. mounting screws. (❶ 7pcs.)

AS P.C.B.

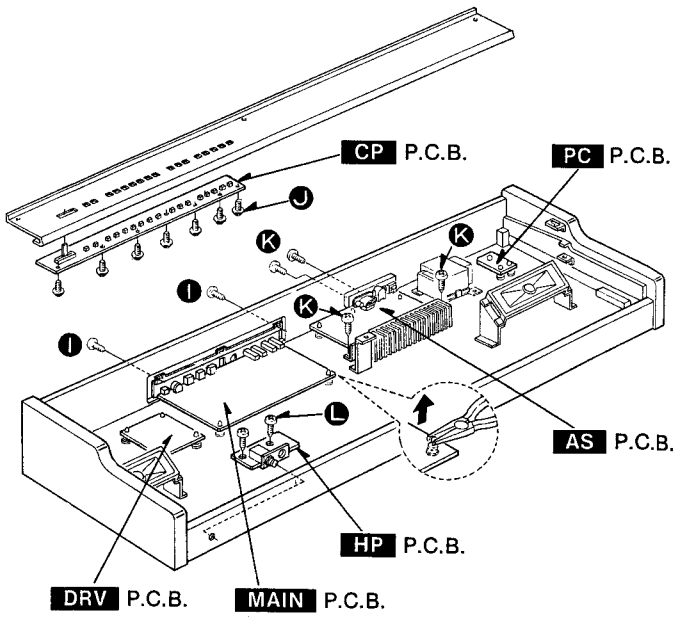
1. Remove the Top Cover. (See Step 2)
2. Remove the AS P.C.B. mounting screws on the rear panel and P.C.B. (❹ 4pcs.)
3. Release the 3 claws of P.C.B. holder.

PC P.C.B.

1. Remove the Top Cover. (See Step 2)
2. Release the 3 claws of P.C.B. holder.

HP P.C.B.

1. Remove the Keyboard assembly. (See Step 5)
2. Remove the HP P.C.B. mounting screws. (❶ 2pcs.)



[Fig. 12]

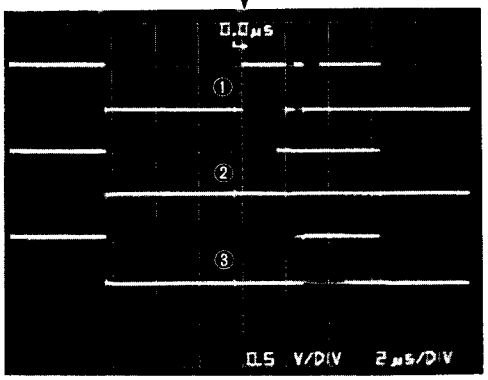
MEASUREMENTS AND ADJUSTMENTS

■ Measuring Equipment

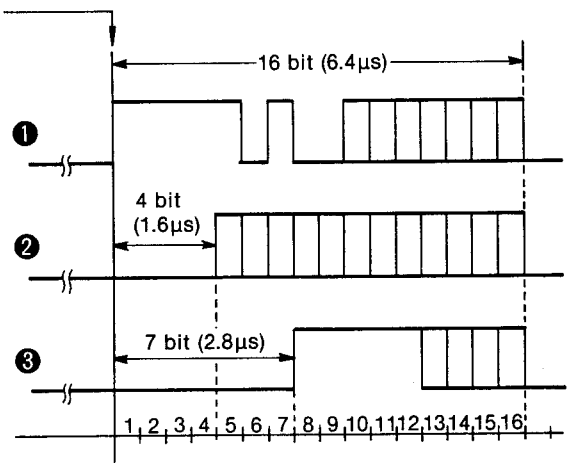
• Oscilloscope 20MHz, 10: 1 probe/1: 1 probe

ADJUSTMENT	MEASURING CONDITIONS	EQUIPMENT	ADJUSTMENT P.C.B.	ADJ. POINT	CONNECT METER TO	METER READING
DRV bias	any position	Oscilloscope	DRV P.C.B.	VR1	Check Point ⑫ ⑬	Photo-A Fig. 13

1. Connect the oscilloscope channel 1 to DRV P.C.B. check point ⑫ and connect the oscilloscope external trigger in to DRV P.C.B. check point ⑬. (Set the oscilloscope CH1 triggering with EXT in)
2. Turn the VR1 on the DRV P.C.B. to full clockwise and set the data strating point to the oscilloscope division scale for ease adjustment for next procedure. (See photo A-❶)
3. Confirm the first 4 bits (or 5 bits) are low when turn the VR1 to full counter-clockwise. (See photo A-❷, Fig. 13-❷)
4. Turn the VR1 clockwise gradually and make first 7 bits (2.8μs) turn to low. (See photo A-❸, Fig. 13-❸)



[Photo-A]



[Fig. 13]

D/A Converter offset	any position	Oscilloscope	MAIN P.C.B.	VR2	IC13-① pin	0V±5mV

1. Set the oscilloscope voltage division to 5mV/cm (Use 1: 1 Oscilloscope Probe) and connect oscilloscope probe to MAIN P.C.B. IC13 Pin ①.
2. Turn the VR2 to adjust the voltage to Zero.

PRECAUTIONS BEFORE SERVICEING

■ Symptoms which appear to be signs of trouble

The following changes in performance may occur in the Technics digital piano but do not indicate trouble.

Phenomenon	Remedy
No sound is produced when the keyboard is played.	No sound is produced if the **MAIN VOLUME** is set to **MIN**. Use the sliding control to set the volume to an appropriate level.
When many keys are pressed at the same time, some of the keys do not produce sound.	The tones from a maximum of 16 simultaneously pressed keys will sound, and then using the sustain pedal or sostenuto pedal, up to 32 notes can sound at one time. When two sounds are mixed, a maximum of 16 notes can be produced simultaneously. For the **VIBES** sound, up to 15 notes can sound at one time.

■ Precautions for measuring of the output waveforms.

1. Please set the INITIAL mode before measurement. (Refer to page I-4)
   • INITIAL mode: While holding down both MODE SET buttons, press the INITIAL key.
2. After INITIAL mode, set the measurement conditions as each check points.
3. The waveform was measured by "National Digital Storage Oscilloscope VP-5730A". Therefore the waveforms of musical tone signals shown may somewhat change due to variation of timing of triggering.
4. Since the 1/10 of the test probe is used, the indicated voltage value on bottom part of the each waveform photo is 1/10 of the actual value. (e.g. 0.2V/cm should be 2.0V/cm)

■ Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

■ Symbolic Marks

The symbolic marks for resistors and capacitors which used in this circuits are classified as following TABLE-1 and TABLE-2.

1. RESISTORS
   • Resistors without symbolic mark are FIXED CARBON FILM RESISTORS (ERD-type).
   • All resistors are 1/4WATT, ±5% TOLERANCE unless otherwise designated in the schematic diagrams.

(TABLE-1)

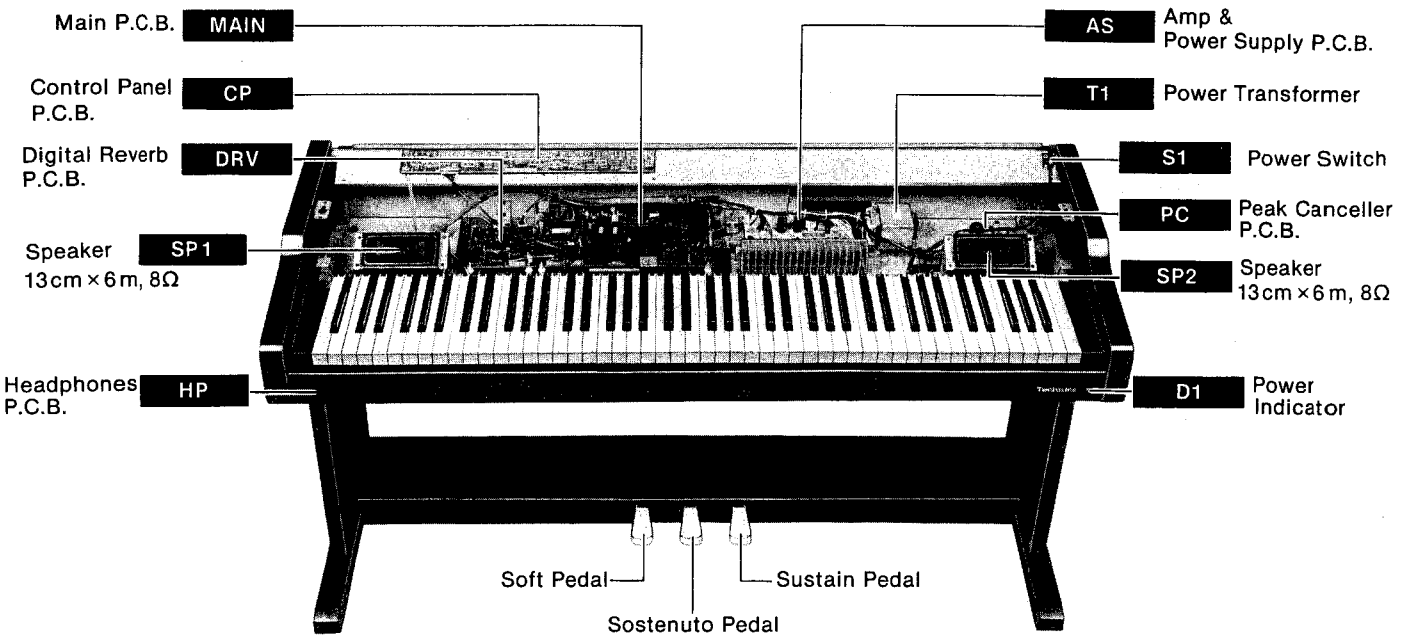
SYMBOL	SPECIFICATION	SYMBOL	SPECIFICATION
Ⓕ	Fixed Carbon Film Resistors "FLAME-PROOF" (ERD—F—type)	Ⓕ	Fixed Metal Film Resistors "FLAME-PROOF" (ERX—type)
Ⓕ	Fixed Wire Wound Resistors "FLAME-PROOF" (ERF—type)	[F]	Fuse Type Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERQ—type)
Ⓕ	Fixed Metal Oxide Film Resistors "FLAME-PROOF" (ERG—type)	[F]	Fuse Type Fixed Carbon Film Resistors "FLAME-PROOF" (ERD2FC—type)
Ⓖ	Fixed Metal Film Resistors (Precision and High Stability) (ERO—type)		

2. CAPACITORS
   • Capacitors without symbolic mark are POLYESTER CAPACITORS. (ECQM-type, ECQG-type, ±10% Tolerance)
   • Polarized capacitors without symbolic mark are Aluminum Electrolytic Capacitors. (ECEA—type, ±20% Tolernace)

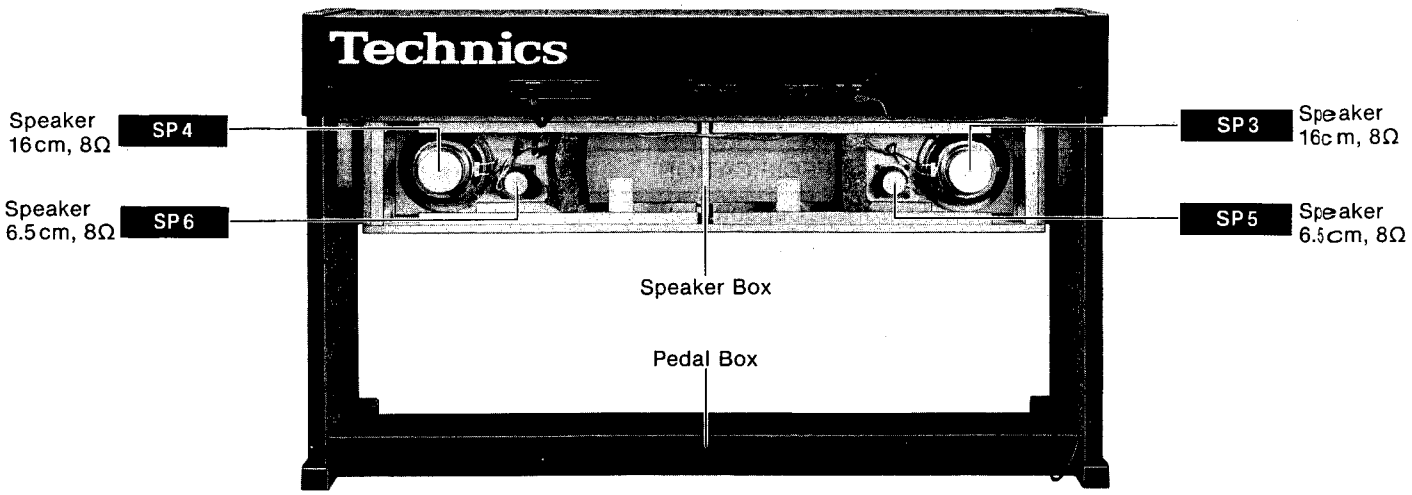
(TABLE-2)

SYMBOL	SPECIFICATION	TYPE
Ⓝ	Non-Polarised Electrolytic Capacitors	ECEA−KN−type
Ⓨ	Non-Polarised Electrolytic (for Network System)	ECEA−Y−type
Ⓜ	Aluminum Electrolytic Capacitors (Low leakage current type)	ECEA−M−type
Ⓩ	Aluminum Electrolytic Capacitors (Low impeadance type)	ECEA−Z−type
Ⓣ	Tantalum Solid Electrolytic Capacitors	ECS−type
Ⓣ	Metalized Plastic Film Capacitors (TF Series)	ECQV−type
Ⓣ	Polyester Film Capacitors	ECQB−type
○	Temperature Compensating Ceramic Capacitors	ECC−type
○	High-Dielectric Constant Ceramic Capacitors	ECK−type ECR−type
○	Ceramic Capacitors (Cylinder type)	ECBA−type
	Metalized Polyester Film Capacitors for Across the Line	ECQ−EW−type
	Aluminum Electrolytic Capacitors for smooting Circuit	ECES−type

PARTS LOCATION



[Photo-1]



[Photo-2]

MIDI IMPLEMENTATION CHART

[digital piano]

[SX-PX33V/SX-PX44V/SX-PX55 (M)/SX-PX66 (M)]

Function...		Transmitted	Recognized	Remarks
Basic	Default	1 (PX33/PX44), 1~16 (PX55/PX66)	1 (PX33/PX44), 1~16 (PX55/PX66)	(PX55/PX66: memorized)
Channel	Changed	1 ~ 16	1 ~ 16	
Mode	Default	3	1 (PX33/PX44); 1, 3 (PX55/PX66)	(PX55/PX66: memorized)
	Messages	×	×	
	Altered	———	———	
Note		28 ~ 103 (PX33)	**1 ~ 126	
Number	True voice	21 ~ 108 (PX44/PX55/PX66)	21 ~ 119	
		———		
Velocity	Note ON	○	○	
	Note OFF	× (9nH: V=0)	×	
After	Key's	×	×	
Touch	Ch's	×	×	
Pitch Bender		×	×	
Control Change	64	○ (PX33/PX44) *○× (PX55/PX66)	○ (PX33/PX44) *○× (PX55/PX66)	sustain pedal
	66	× (PX33) ○ (PX44) *○× (PX55/PX66)	× (PX33) ○ (PX44) *○× (PX55/PX66)	sostenuto pedal
	67	○ (PX33/PX44) *○× (PX55/PX66)	○ (PX33/PX44) *○× (PX55/PX66)	soft pedal
	93	○ (PX33/PX44) *○× (PX55/PX66)	○ (PX33/PX44) *○× (PX55/PX66)	digital celeste
Prog Change	True #	○ (PX33) *○× (PX44/PX55/PX66) 0 ~ 127	○ (PX33) *○× (PX44/PX55/PX66) 0 ~ 2 (PX33) 0 ~ 5 (PX44) 0 ~ 6 (PX55) 0 ~ 9 (PX66)	
System Exclusive		×	×	
System	Song Pos	×	×	
	Song Sel	×	×	
Common	Tune	×	×	
System	Clock	×	×	
Real Time	Commands	×	×	
Aux	Local ON/OFF	×	×	
	All Notes OFF	○	○	
Messages	Active Sense	○	○	
	Reset	×	×	
Notes		*○× ..... Whether or not the data for each of these items is transmitted or received can be set. ** Changes depending on the position of the transpose.		

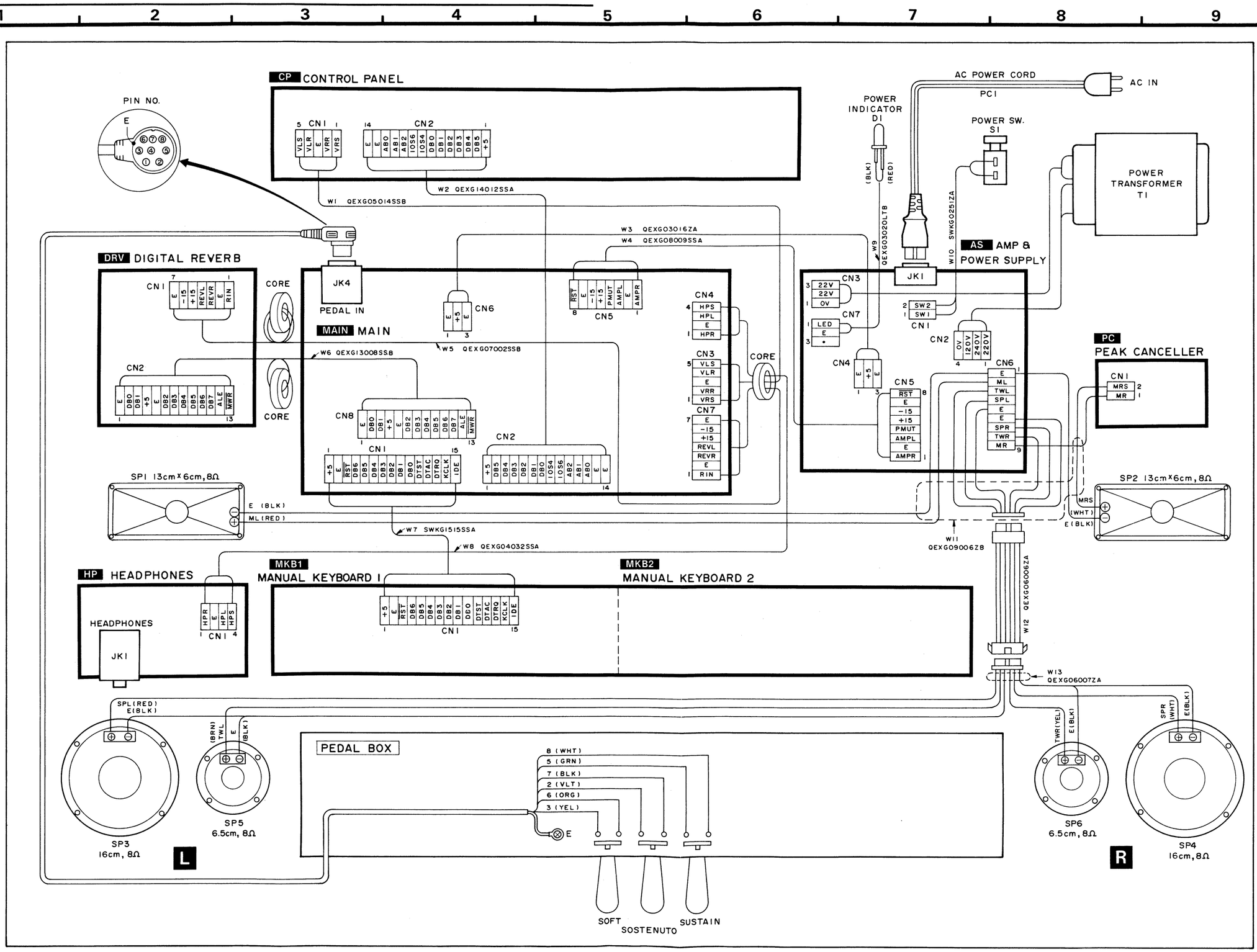
Mode 1: OMNI ON, POLY **Mode 2:** OMNI ON, MONO ○ : Yes

Mode 3: OMNI OFF, POLY **Mode 4:** OMNI OFF, MONO × : NO

- This product adheres to MIDI specifications as published by the Japan MIDI Association.

MEMO

WIRING CONNECTION DIAGRAM



BLOCK DIAGRAM

1 2 3 4 5 6 7 8 9 10

A B C D E F

Tone Signals Control Signals

MKB1 MKB2 MANUAL KEYBOARD CIRCUIT

Key Switches & Diodes

CN1

IDE, KCLK

IC2 — 1K bit ROM — DB0

RST

DTAC

DTRQ, DTST

DB0 ~ DB6

IC1 — Gate Array

NRST, DTACK, DTRQ, DTSTE, DB0 ~ DB6

KB0 ~ KB21

KF0~KF3, KS0~KS3

X1, X0

X1

CP CONTROL PANEL CIRCUIT

IC1, IC5 — Decoder

Y0, Y2 — CK — IC2~IC4, IC6~IC8 — Data Latch

LED'S

Q1 — LED Drive

Y3, Y5, Y6

Switches & Diodes

DB0~DB5

Data Bus

CN2

IOS4,6

AB0~AB2

DB0~DB5

CN2

MAIN MAIN CIRCUIT

DB0~DB6

Data Bus

CN1

DTAC, KCLK

RST

DTRQ

DTST

IDE

IC3

PB0 TGRST

PB6

PB7

PC4

X2

X1

VR1 TUNE

AVcc

ANO

AVss

JK1 PEDAL IN — SUSTAIN, SOFT, SOSTENUTO — PA7, PA5, PA6

JK2 MIDI THRU — IC1-1

JK3 MIDI OUT — IC1-2 — TXD

JK4 MIDI IN — IC2 Photo Coupler — Q21 — RXD, NMI, RST

IC4

DTAC, KCLK

IOS5, IOS9

DB0~DB7

XI, XO

IOS4, IOS6, AB0~AB2, IOS7, IOS8, IOS1, IOS2

SCK, ALE, WR, RD

CKO

CS1

D0~D7

AL0~AL7

PF4~PF7

PD0~PD7

PF0~PF7

Address Bus

Q22

D7~D9 C15 — Memory Back-up

IC5 — ROM (256K bit) — PF7, PF6~PF0, A8~A14, A0~A7

IC6 — SRAM (16K bit) — PF2~PF0, A8~A10, A0~A7, CS

Data Bus

PB1~PB5 — HC0~HC4

IC8 — Tone Generator LSI 1

TGRST, PHREN, DB0~DB7, MD0~MD7, AB0~AB2, MD8~MD10, NWR, NRD, ALE, WOUO~WOU2, OUTSLO~OUTSL2, INHOUT

WOLO~WOL15

IC26 IC13-1 — D/A Converter

IC14, Z4 IC13-2 — Level Shifter

VR2 — Offset Adj. — A~C

A~C INH

IC15, IC17-2 IC16-2 — Panning Circuit

IC7 — Tone Generator LSI 2

PH12,23,34,45, PH56,67,78,81 — NS00~NS03 — CB0~CB5 — REQAB/CB

IC12-1

AD19, AD22, AD0~AD18, Address

IC9 — Wave ROM (8M bit) — IC10 — Wave ROM (8M bit)

DT0~DT15 — Data

DB0~DB7 — CN8

ALE, MWR

Notch Filter — IC17-1 Low-Pass Filter — IC19-2, Q8~Q12 Lch Brilliance Control Circuit

Notch Filter — IC16-1 Low-Pass Filter — IC19-1, Q3~Q7 Rch Brilliance Control Circuit

Brilliance Control — HC0~HC4

IC20-2 Lch Mixing — IC20-1 Rch Mixing — IC21 Dynamic Noise Reduction — VLS, VRS

CN7 — DRVO, DRVL, DRVR

DRV DIGITAL REVERB CIRCUIT

CN1

IC5 — Digital Signal Processor (DSP)

IC1 — Reset IC — X1, RST

CN2

IC3 — Gate Array (DSP Interface)

DO~D15, FA0~4, EWE, FLI, RST, CKI, CK2

ASCK, AS1, AWCK, ASO — SCKO, SDO, WSO, WS1, SD1

IC4 — A/D Converter, D/A Converter

AIL, A2L, A3L

PWML, PWMR

IC7-1 — IC7-2 Low-Pass Filter

IC8-2, IC8-1

IC9-2 Low-Pass Filter — IC9-1 Low-Pass Filter

Q2, Q1

IC10-1 Noise Limiter Control Circuit

IC11 Dynam Noise Redu

DB0~DB7

AO~A14, DO~D7

IC2 — P-SRAM (256K bit)

CP CONTROL PANEL CIRCUIT

IC1, IC5 Decoder
$\overline{Y0}$, $\overline{Y2}$ CK
IC2~IC4, IC6~IC8 Data Latch
LED'S
Q1 LED Driver
$\overline{Y3}$, $\overline{Y5}$, $\overline{Y6}$
Switches & Diodes
DB0~DB5
Data Bus
KS0~KS3
X1
X0
CN2
IOS4,6
AB0~AB2
DB0~DB5

AS AMP & POWER SUPPLY CIRCUIT

S1 Power SW
Power Indicator
D1
LED
CN7
Q1, Q2 Reset Circuit
IC2, Q3, D12 +5V Switching Regulator
IC3 +15V Regulator
IC4 -15V Regulator
D1~D6 Rectifier
Primary Circuit
CN1
JK1
AC IN
PC1
T1 POWER TRANSFORMER
CN2
CN3
CN4
CN6
+5
RST
+15
-15
CN5

DRV DIGITAL REVERB CIRCUIT

CN1
DRVO
DRVL
DRVR
IC5 Digital Signal Processor (DSP)
IC3 Gate Array (DSP Interface)
IC4 A/D Converter
D/A Converter
DO~D15
FAO~4
EWE
FLI
RST
CKI, CK2
IC1 Reset IC
X0
X1
ASCK SCKO
AS1 SDO
AWCK WSO
WS1
ASO SD1
AIL
A2L
A3L
PWML
PWMR
IC7-1 Low-Pass Filter
IC7-2 Low-Pass Filter
IC11 Dynamic Noise Reduction
IC8-2
IC9-2 Low-Pass Filter
IC8-1
IC9-1 Low-Pass Filter
Q2
Q1
IC10-1 Noise Limiter Control Circuit
IC2 P-SRAM (256K bit)
AO~A14
DO~D7
CN8
CN2
DB0~DB7
ALE, $\overline{MWR}$

IC8 Tone Generator LSI 1
TGRST
PHREN
DBO ~DB7
MDO ~MD7
MD8 ~MDIO
NWR
NRD
ALE
WOLO ~ WOL15
WOUO ~ WOU2
OUTSLO ~
OUTSL2
INHOUT
IC26 IC13-1 D/A Converter
IC14, Z4 IC13-2 Level Shifter
VR2 Offset Adj.
A~C
A~C INH
IC15, IC17-2 IC16-2 Panning Circuit
Notch Filter
IC17-1 Low-Pass Filter
IC19-2, Q8~Q12 L ch Brilliance Control Circuit
IC16-1 Low-Pass Filter
IC19-1, Q3~Q7 R ch Brilliance Control Circuit
Brilliance Control
HC0~HC4
IC20-2 L ch Mixing
IC20-1 R ch Mixing
IC21 Dynamic Noise Reduction
VLS
VRS
Main Volume VR1
VLR
VRR
CN1
CN3
IC7 Tone Generator LSI 2
ABO ~ AB15
PH12, 23, 34, 45
PH56, 67, 78, 81
NSO0 ~ NS03
CBO ~ CB5
REQAB/CB
IC12-1
AD19
AD22
ADO ~ AD18
Address
IC9 Wave ROM (8M bit)
IC10 Wave ROM (8M bit)
DTO ~ DT15
Data
Back-up
D9

IC22-2 L ch Mixing
IC22-1 R ch Mixing
VLR
VRR
AMPL
AMPR
IC1-2 Power Amplifier (L ch)
IC1-1 Power Amplifier (R ch)
CN6
CN5
Q18, Q19 Q25 Muting Control Circuit
RST
PMUT
IC25-1 L ch AUX Amp
IC25-2 R ch AUX Amp
JK8 L
JK7 R/R+L
JK6 L
JK5 R/R+L
LINE OUT
AUX IN
ML
TWL
SPL
SPR
TWR
MR
MRS
SP1 13cm x 6cm, 8Ω
SP5 6.5cm, 8Ω
SP3 16cm, 8Ω
SP4 16cm, 8Ω
SP6 6.5cm, 8Ω
SP2 13cm x 6cm, 8Ω

PC PEAK CANCELLER

CN1
MR
MRS

HP HEADPHONES

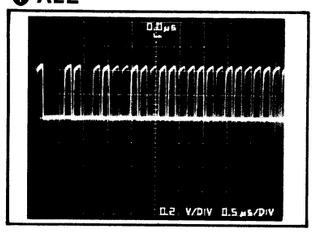
JK1 Headphones
IC23-2, Q15, Q20
IC23-1, Q13, Q14
HPS
HPL
HPR
CN4
CN1

MAIN AND HEADPHONES CIRCUIT BOARD

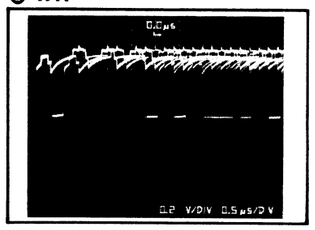
■ Measuring Conditions

1. The tone signal output varies with the level of key pressing force. In this measurement, the waveform obtained with maximum key pressing force is shown.
2. Set the initial mode before measurement.

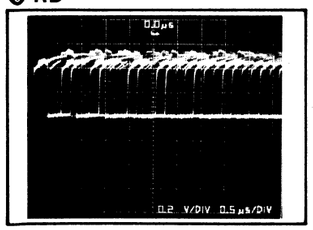
❶ ALE



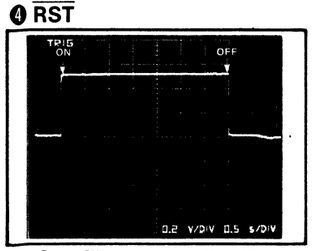
❷ $\overline{WR}$



❸ $\overline{RD}$

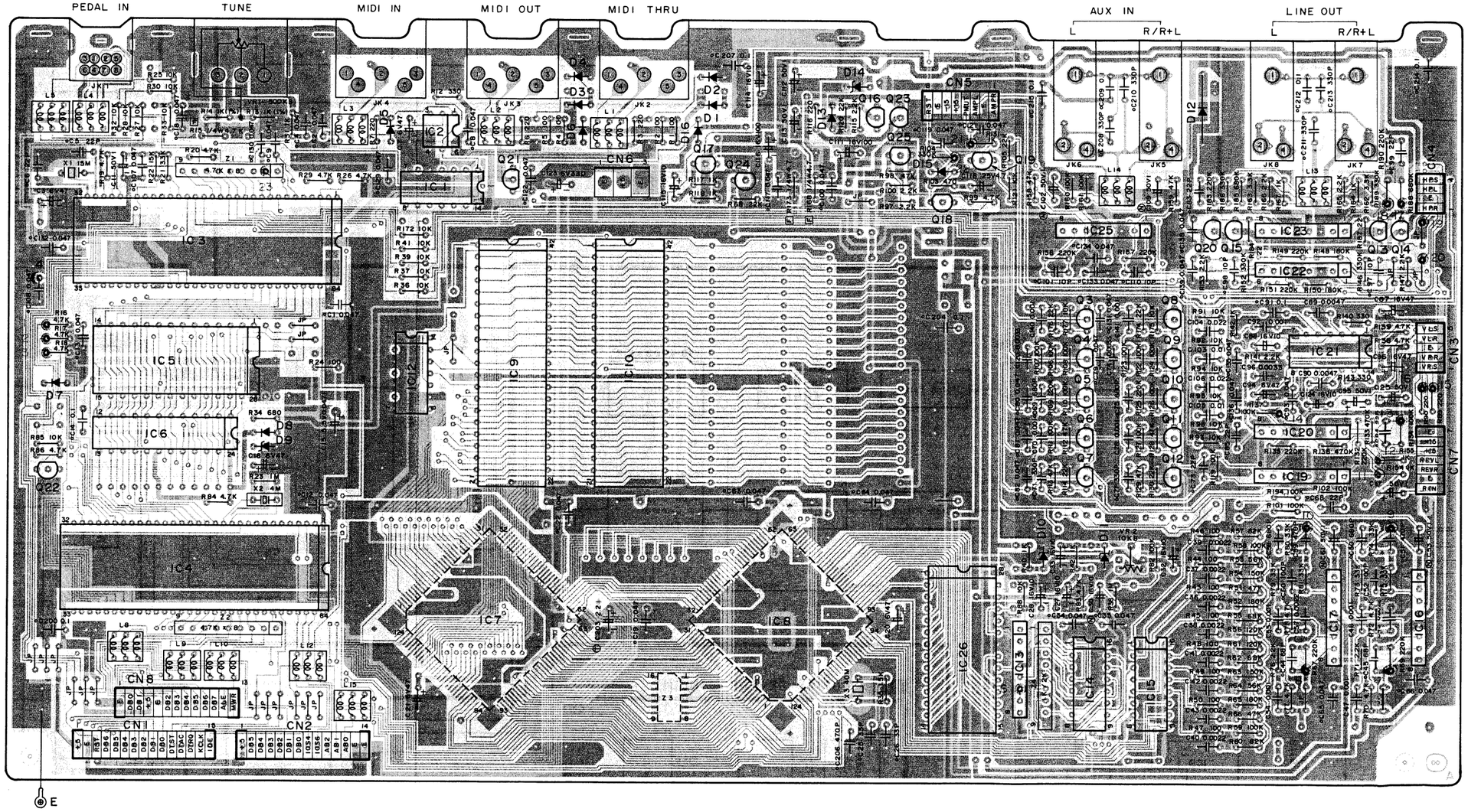


❹ $\overline{RST}$



• Power SW.....ON→OFF

MAIN MAIN CIRCUIT BOARD Circuit view on top of P.C.B. SXPG203651



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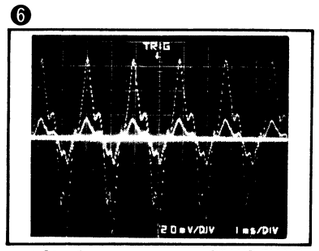
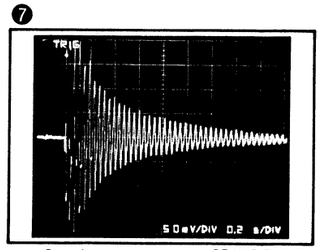


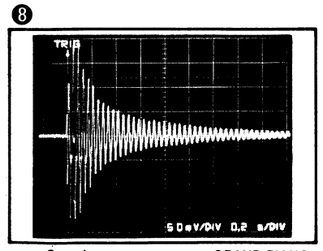
• Sound.....GRAND PIANO
• Keyboard.....C_{52}

❼



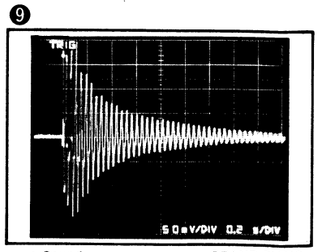
• Sound.....GRAND PIANO
• Keyboard.....C_{52}

❽



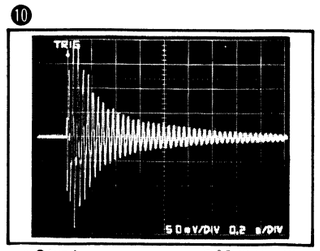
• Sound.....GRAND PIANO
• Keyboard.....C_{52}

❾



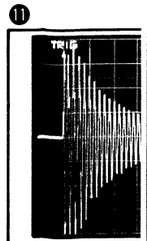
• Sound.....GRAND PIANO
• Keyboard.....C_{52}

❿



• Sound.....GRAND PIANO
• Keyboard.....C_{52}

⓫

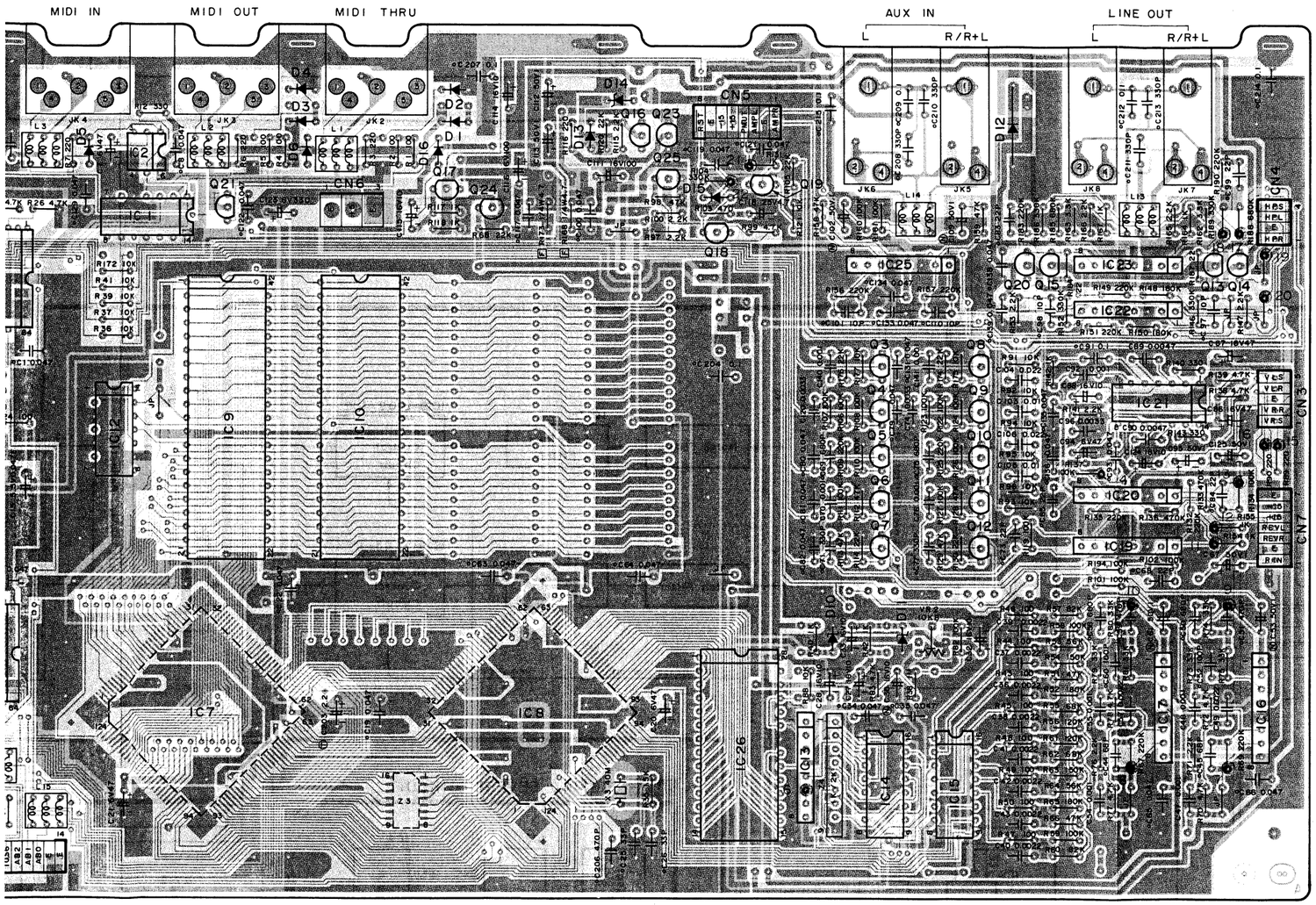


• Sound.....
• Keyboard.....

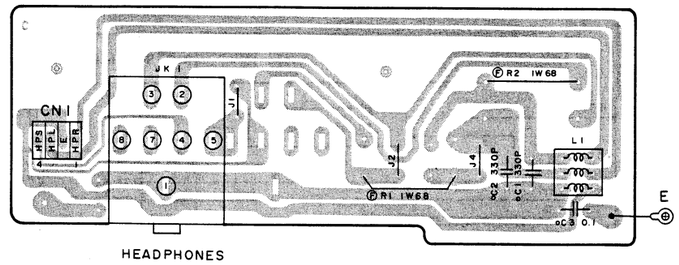
5 6 7 8 9 10 11 12 13 14

Circuit view on top of P.C.B.

SXPG203651



HP HEADPHONES CIRCUIT BOARD **SXPG203711B**



MAIN

NOTES:

- IC'S

IC1:	SVIGM74LS07
IC2:	SVIGTLP513
IC3:	SVIG7810HCW
IC4:	SVIGM603A114
IC5:	QSIG2PX55AX0
IC6:	BR6116-100
IC7:	MN73013PGD
IC8:	MN73012PGC
IC9:	QSIGH3C08C26
IC10:	QSIGH3C08C45
IC12:	SVIGM74H04
IC13:	SVIGM5238L
IC14, 15:	SVIGT74H4051
IC16, 17, 19, 20, 22, 23, 25:	SVIGM5218L
IC21:	SVIGLM1894N
IC26:	SVIGPCM54

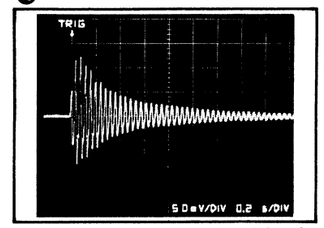
- TRANSISTORS

Q3~12:	2SJ105GR
Q13, 15:	2SC3940ARS
Q14, 20:	2SA1534ARS
Q16, 18, 23:	2SC2320LFG
Q17, 19, 21, 24, 25:	2SA1015-GR
Q22:	2SC1047C

- DIODES

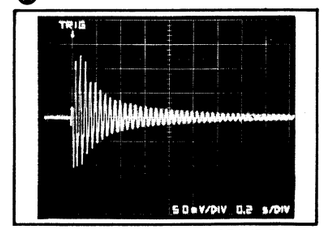
D1~8, 13, 15, 16:	MA165TA5
D9:	MA4056
D10, 11:	MA4051MTA
D12:	SVDGRK14S
D14:	MA4062

⑬

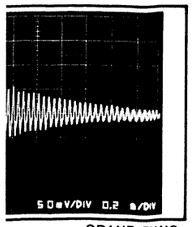


- Sound.....GRAND PIANO
- Keyboard .....C_{52}

⑭

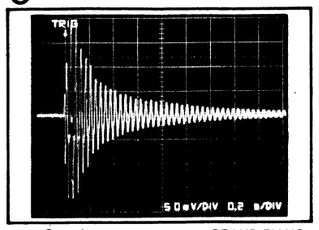


- Sound.....GRAND PIANO
- Keyboard .....C_{52}



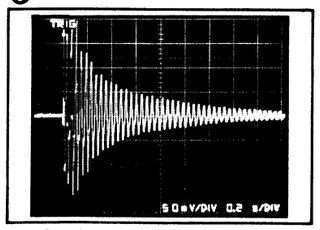
.....GRAND PIANO
.....C_{52}

⑧



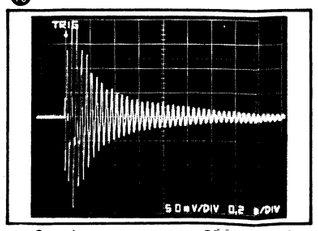
- Sound.....GRAND PIANO
- Keyboard .....C_{52}

⑨



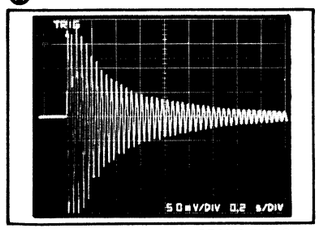
- Sound.....GRAND PIANO
- Keyboard .....C_{52}

⑩



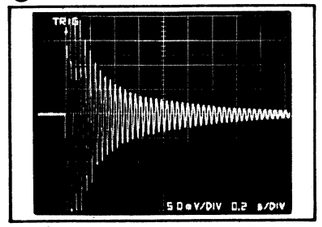
- Sound.....GRAND PIANO
- Keyboard .....C_{52}

⑪



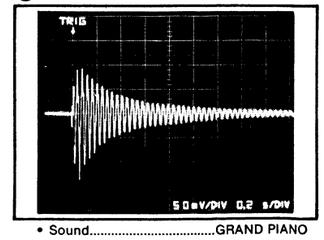
- Sound.....GRAND PIANO
- Keyboard .....C_{52}

⑫



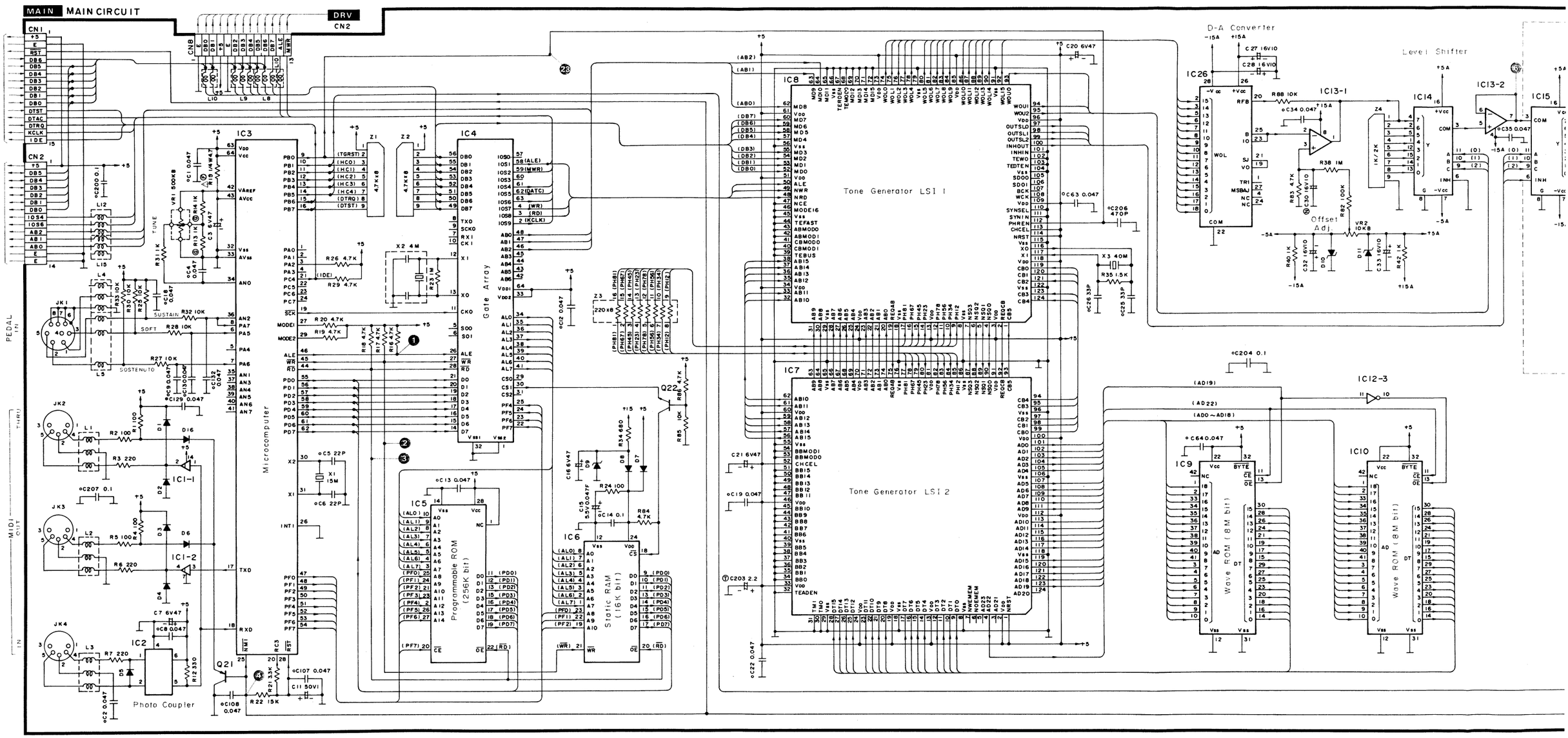
- Sound.....GRAND PIANO
- Keyboard .....C_{52}

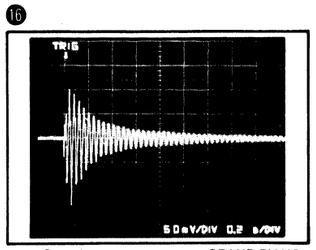
⑮



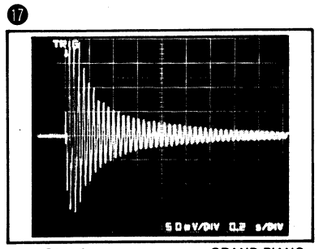
- Sound.....GRAND PIANO
- Keyboard .....C_{52}

MAIN AND HEADPHONES CIRCUIT DIAGRAM

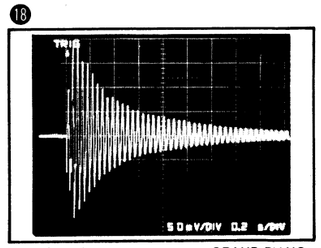


16


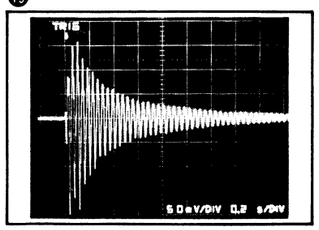
- Sound.....GRAND PIANO
- Keyboard .....C_{52}

17


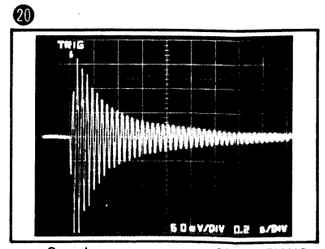
- Sound.....GRAND PIANO
- Keyboard .....C_{52}
- Main Vol. .....Max

18


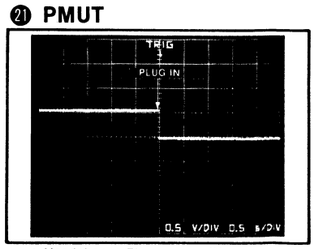
- Sound.....GRAND PIANO
- Keyboard .....C_{52}
- Main Vol. .....Max

19


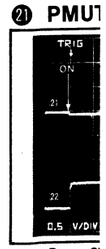
- Sound.....GRAND PIANO
- Keyboard .....C_{52}
- Main Vol. .....Max

20


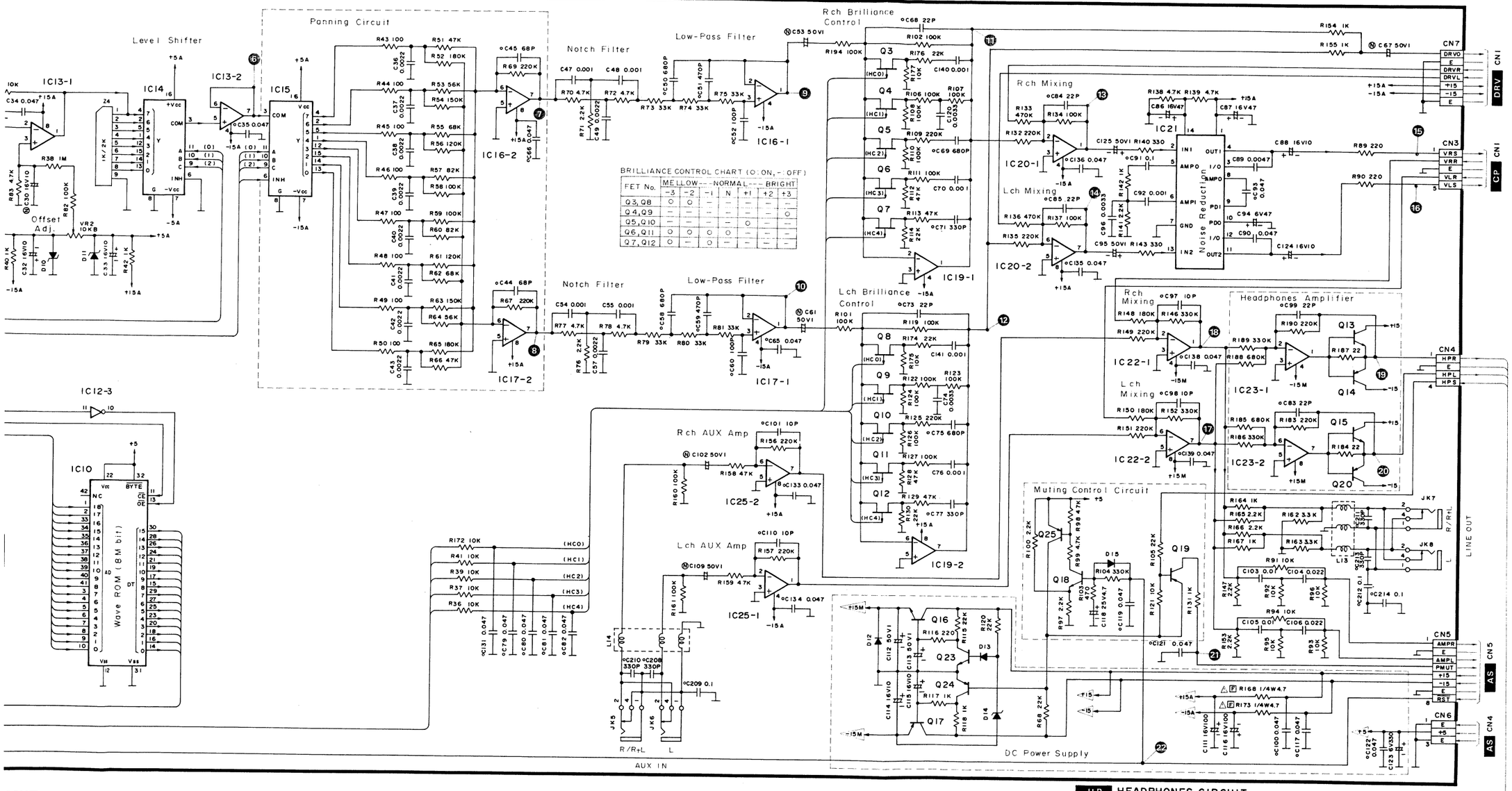
- Sound.....GRAND PIANO
- Keyboard .....C_{52}
- Main Vol. .....Max

21 PMUT


- Headphones Plug.....IN

21 PMUT


- Power SW



BRILLIANCE CONTROL CHART (O:ON, -:OFF)

FET No.	MELLOW -3	-2	-1	NORMAL N	+1	BRIGHT +2	+3
Q3, Q8	O	O	-	-	-	-	-
Q4, Q9	-	-	-	-	-	-	O
Q5, Q10	-	-	-	-	O	-	-
Q6, Q11	O	O	O	O	-	-	-
Q7, Q12	O	-	O	-	-	-	-

MAIN

NOTES:

- IC'S

IC1:	SVIGM74LS07
IC2:	SVIGTLP513
IC3:	SVIG7810HCW
IC4:	SVIGM603A114
IC5:	QSIG2PX55AX0
IC6:	BR6116-100
IC7:	MN73013PGD
IC8:	MN73012PGC
IC9:	QSIGH3C08C26
IC10:	QSIGH3C08C45
IC12:	SVIGM74H04
IC13:	SVIGM5238L
IC14, 15:	SVIGT74H4051
IC16, 17, 19, 20, 22, 23, 25:	SVIGM5218L
IC21:	SVIGLM1894N
IC26:	SVIGPCM54

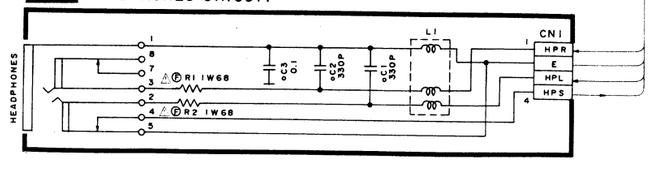
- TRANSISTORS

Q3~12:	2SJ105GR
Q13, 15:	2SC3940ARS
Q14, 20:	2SA1534ARS
Q16, 18, 23:	2SC2320LFG
Q17, 19, 21, 24, 25:	2SA1015-GR
Q22:	2SC1047C

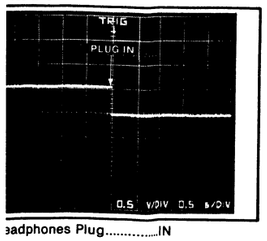
- DIODES

D1~8, 13, 15, 16:	MA165TA5
D9:	MA4056
D10, 11:	MA4051MTA
D12:	SVDGRK14S
D14:	MA4062

HP HEADPHONES CIRCUIT

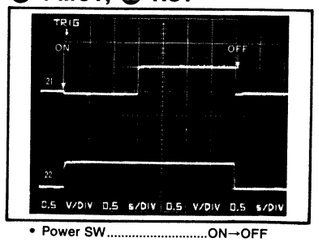


⑳ PMUT



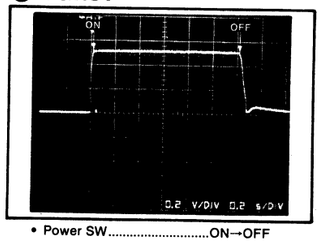
Headphones Plug.....IN

㉑ PMUT, ㉒ RST



• Power SW.....ON→OFF

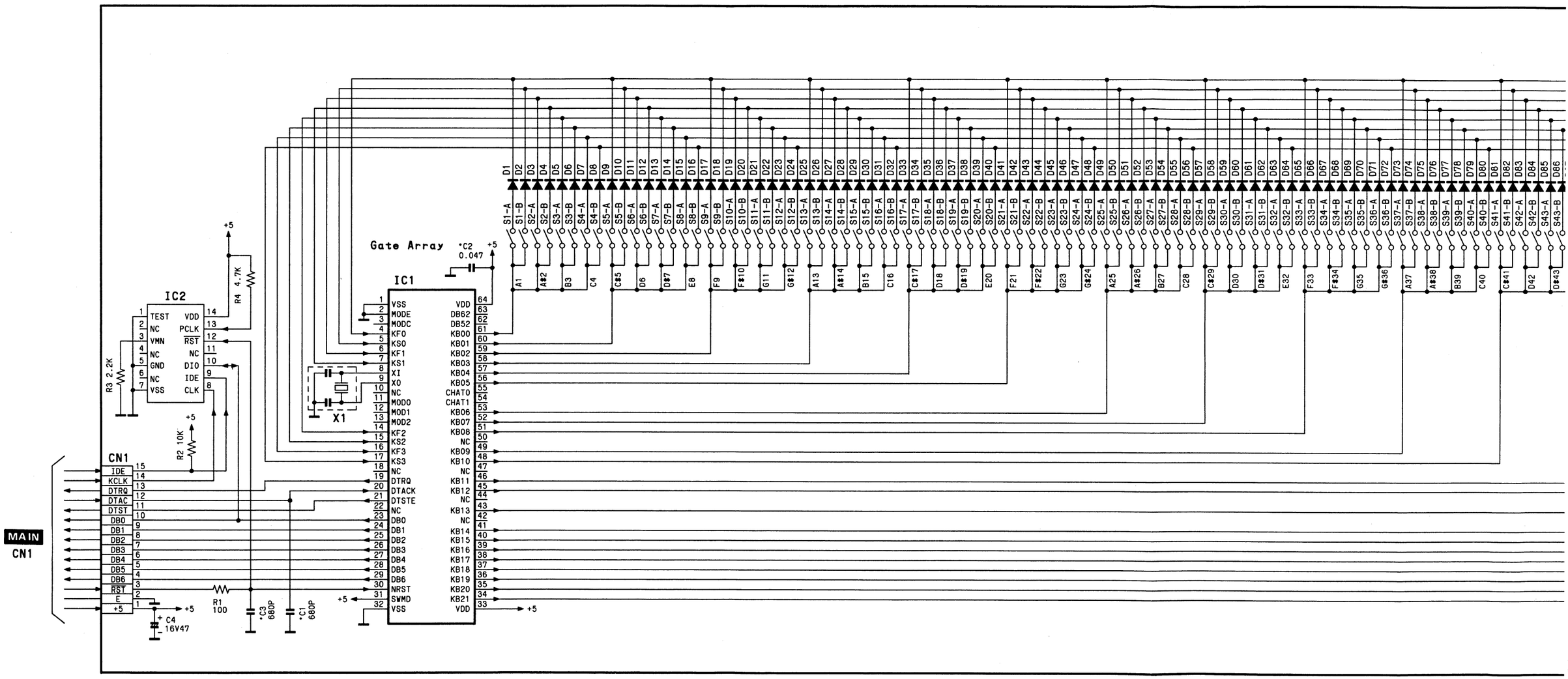
㉓ TGRST



• Power SW.....ON→OFF

MANUAL KEYBOARD 1, 2 CIRCUIT DIAGRAM

MKB1 MANUAL KEYBOARD 1 CIRCUIT DIAGRAM

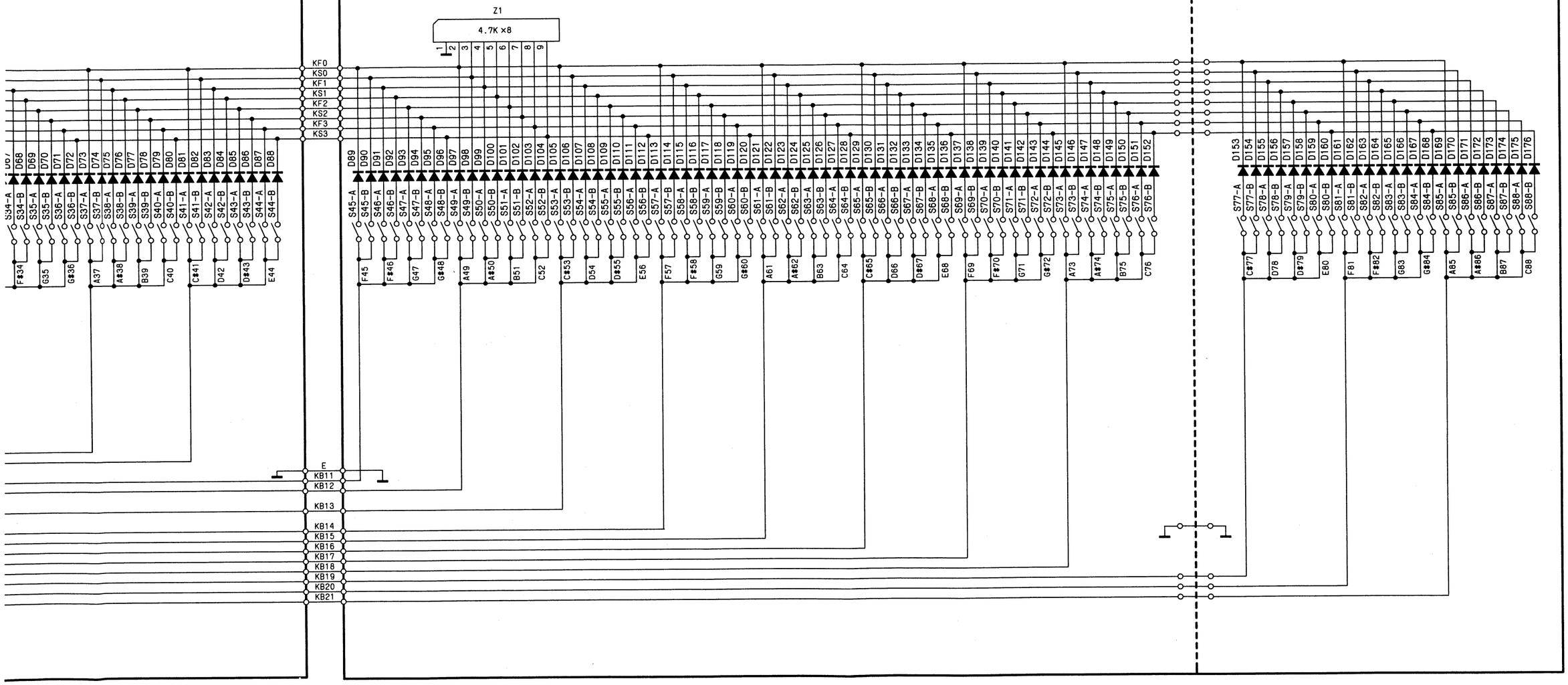


MKB1

NOTES:

- IC'S
  - IC1: MN50020PGV
  - IC2: MN1231
- DIODES
  - D1~88: MA162A

MKB2 MANUAL KEYBOARD 2 CIRCUIT DIAGRAM

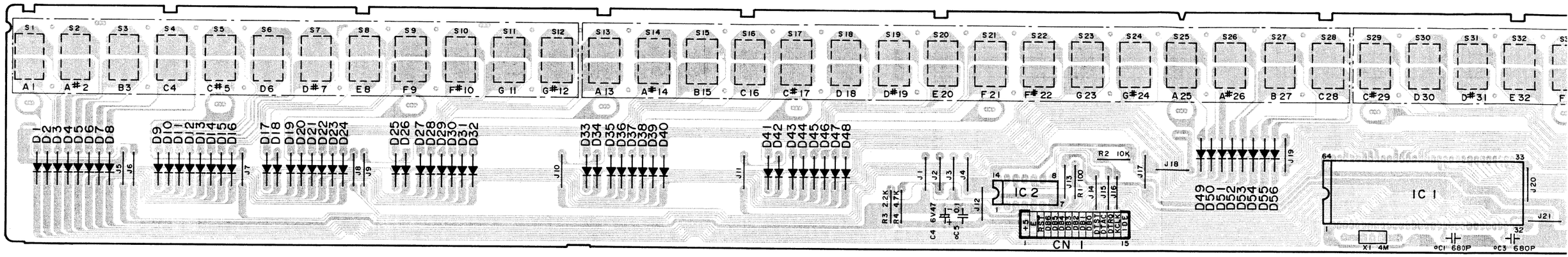


MKB2

NOTES:

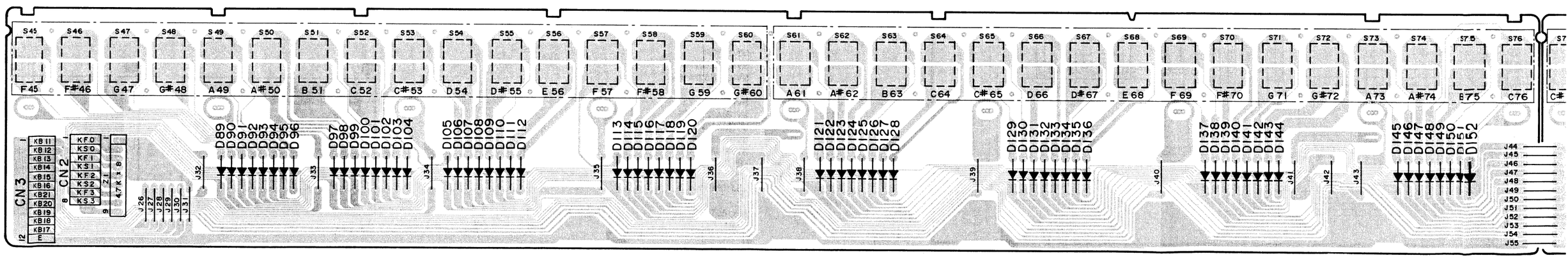
- DIODES
  D89～176: MA162A

MKB1 MANUAL KEYBOARD 1 CIRCUIT BOARD



MKB1
NOTES:
- IC'S
  IC1:
  IC2:
- DIODES
  D1~88:

MKB2 MANUAL KEYBOARD 2 CIRCUIT BOARD

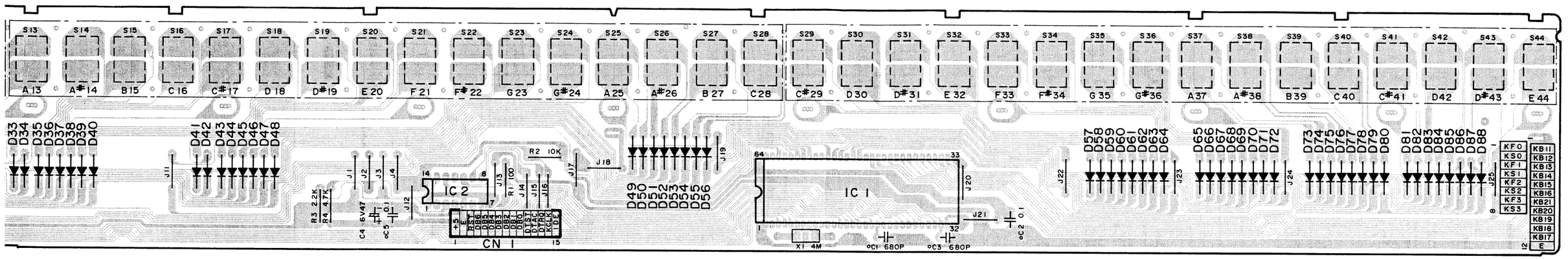


MKB2
NOTES:
- DIODES
  D89~176:

CIRCUIT BOARD

5 6 7 8 9 10 11 12 13 14

SXPG203811A

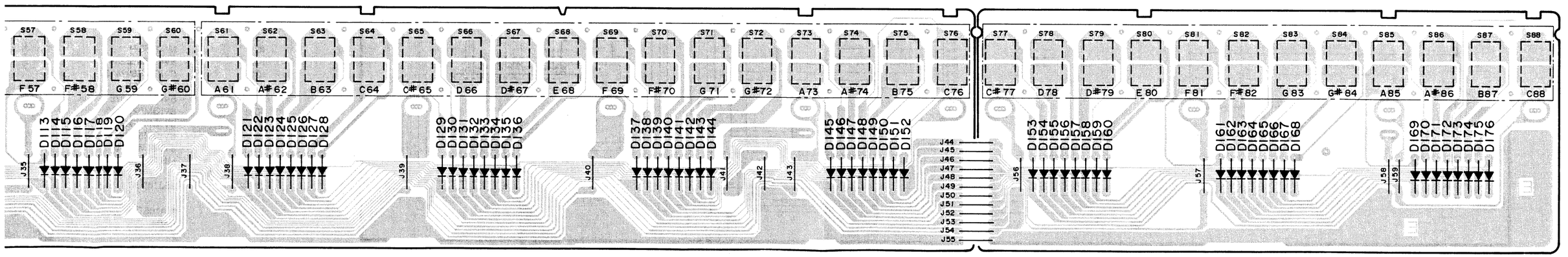


MKB1

NOTES:

- IC'S
  - IC1: MN50020PGV
  - IC2: MN1231
- DIODES
  - D1~88: MA162A

SXPG203811B

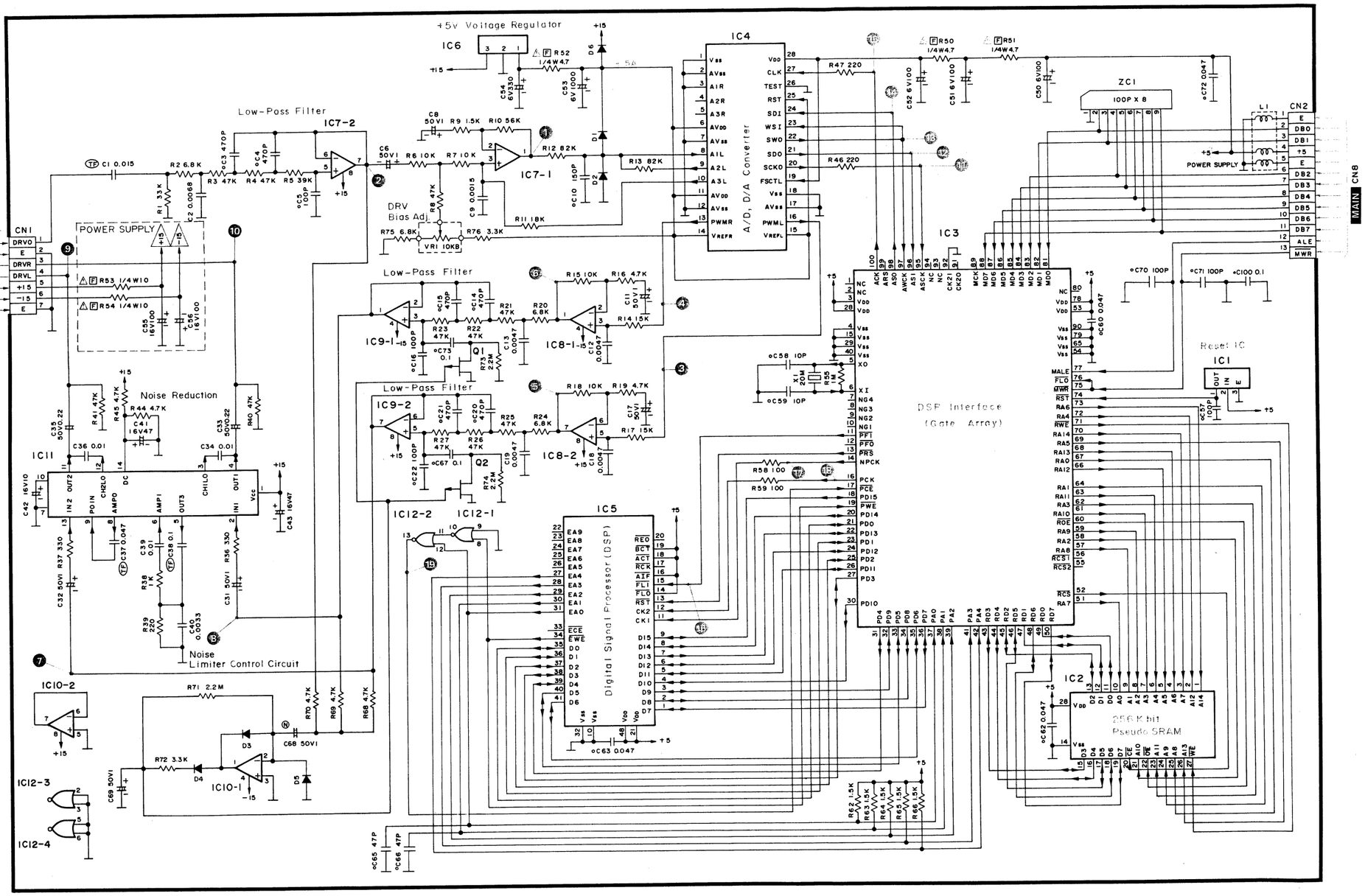


MKB2

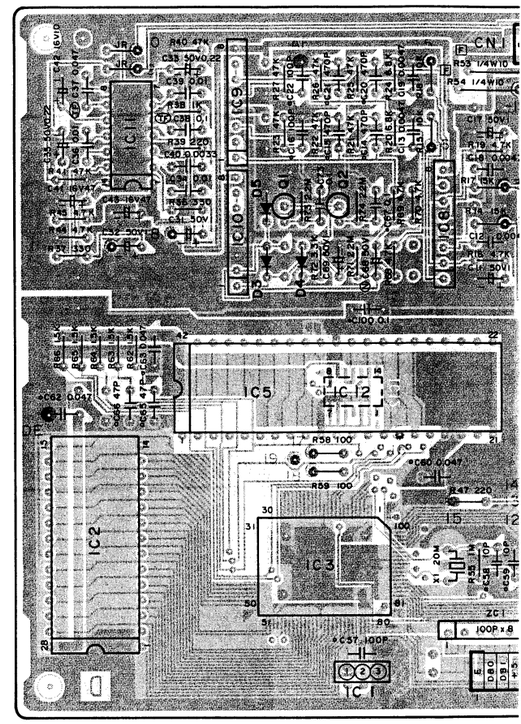
NOTES:

- DIODES
  - D89~176: MA162A

DIGITAL REVERB CIRCUIT DIAGRAM AND CIRCUIT BOARD



Circuit view on top of P.C.B.



NOTES:

- IC'S

IC1:	MN1280R
IC2:	SVIGHM65256
IC3:	SVIGMB622416
IC4:	MN8305S
IC5:	SVIG87064075
IC6:	SVIGM5278L05
IC7:	SVIGM5220L
IC8~10:	SVIGM5218L
IC11:	SVIGLM1894N
IC12:	MN74HC02S

- TRANSISTORS

Q1, 2:	2SJ105GR

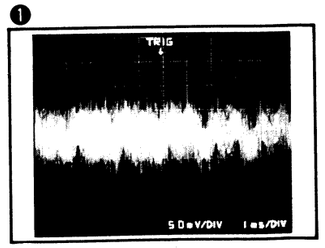
- DIODES

D1~5:	MA165TA5
D6:	EK04

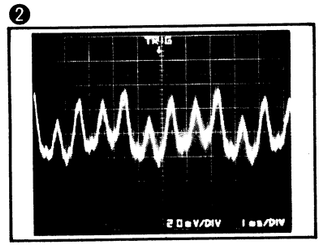
■ Measuring Conditions

1. The tone signal output varies with the level of key pressing force. In this measurement, the waveform obtained with maximum key pressing force is shown.
2. Set the initial mode before measurement.
3. After initial mode, set the measurement conditions as follows.
   - Sound.....PIPE ORGAN
   - Digital Reverb .....HALL
   - Keyboard .....C_{52} Key

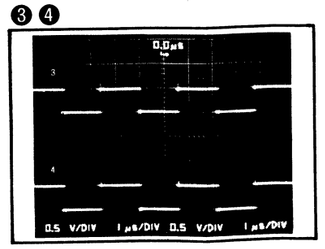
❶



❷



❸ ❹



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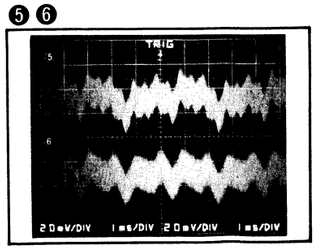

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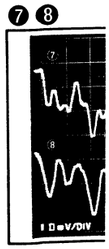
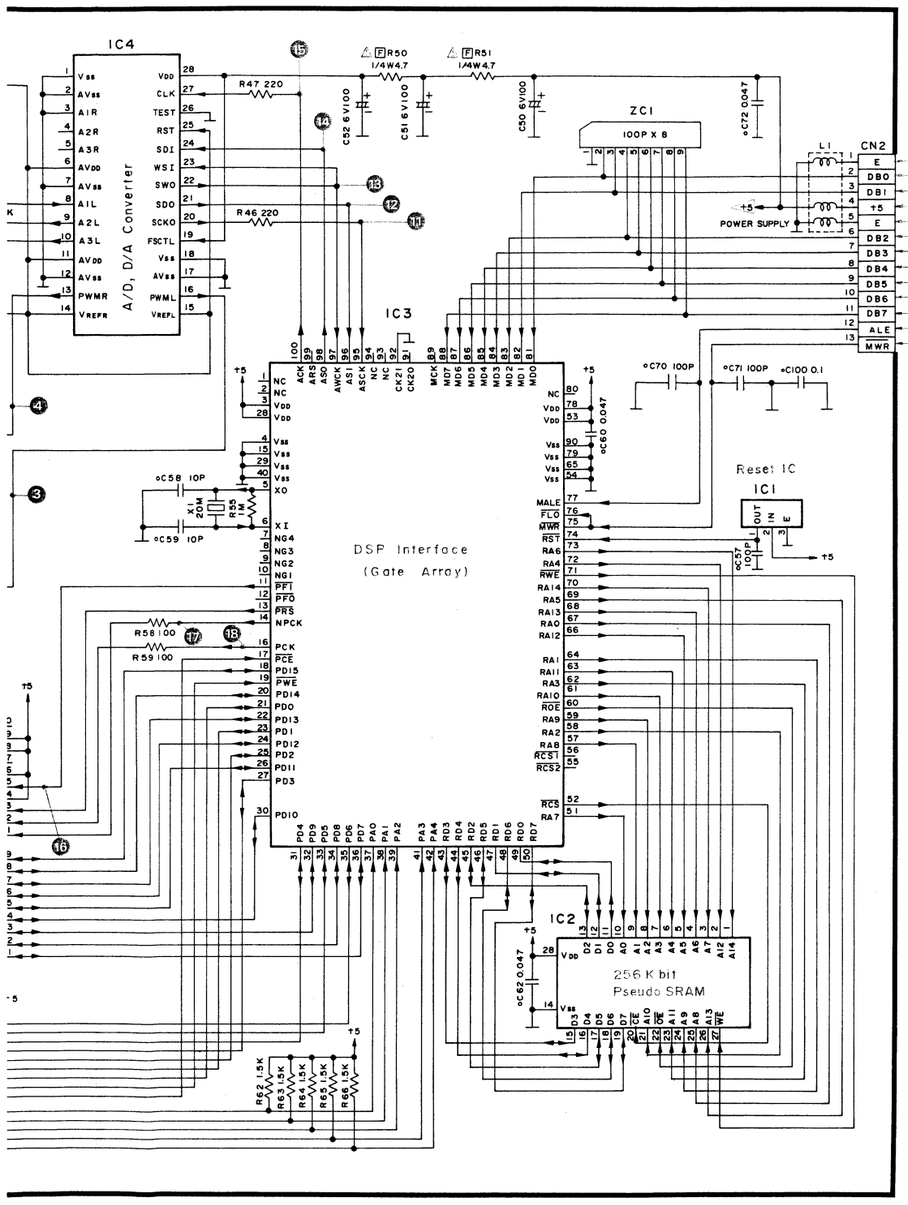


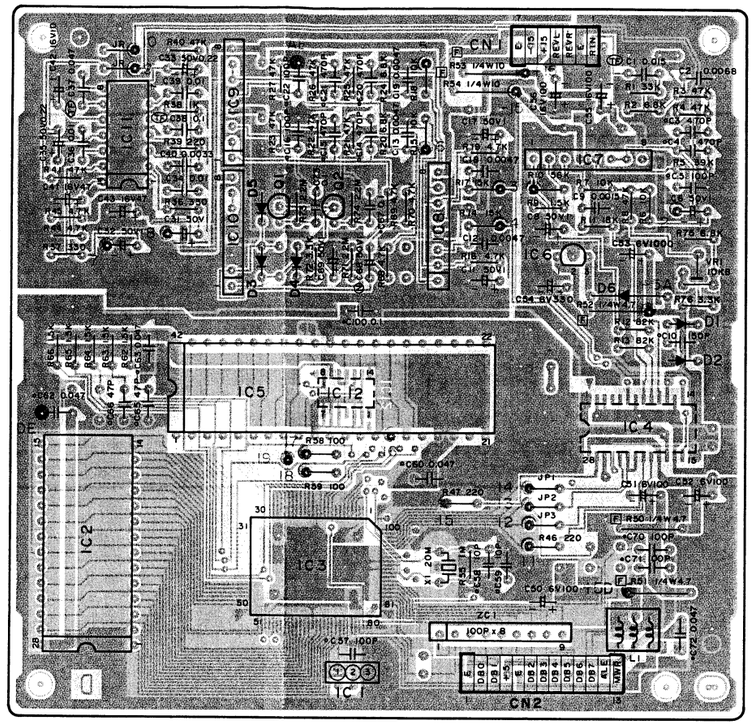
) CIRCUIT BOARD

5 6 7 8 9 10 11 12 13 14



Circuit view on top of P.C.B.

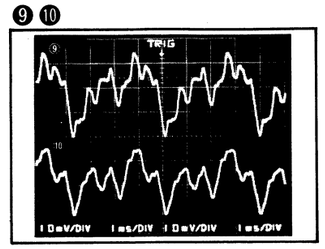
SXPG146041



NOTES:

- IC'S
  - IC1: MN1280R
  - IC2: SVIGHM65256
  - IC3: SVIGMB622416
  - IC4: MN8305S
  - IC5: SVIG87064075
  - IC6: SVIGM5278L05
  - IC7: SVIGM5220L
  - IC8~10: SVIGM5218L
  - IC11: SVIGLM1894N
  - IC12: MN74HC02S
- TRANSISTORS
  - Q1, 2: 2SJ105GR
- DIODES
  - D1~5: MA165TA5
  - D6: EK04

⑨ ⑩



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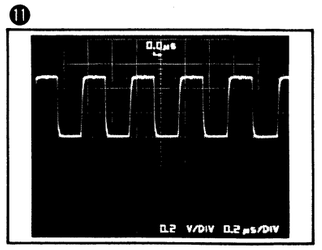

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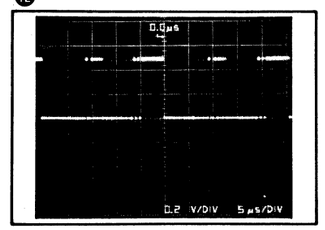

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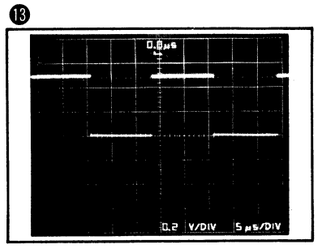

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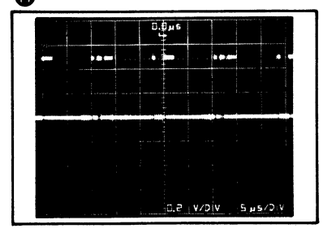

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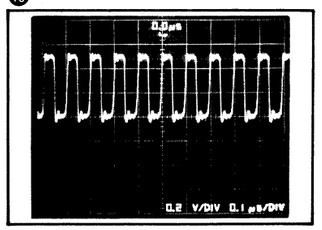

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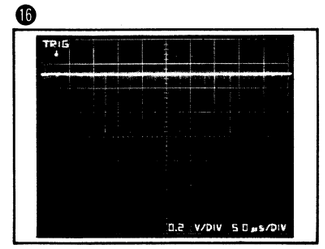

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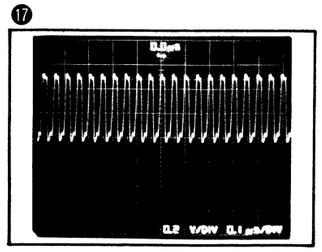

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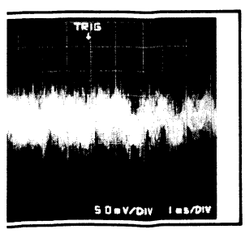
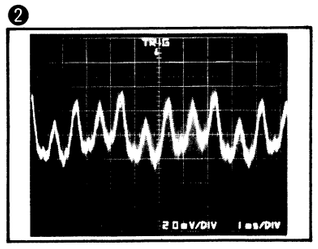
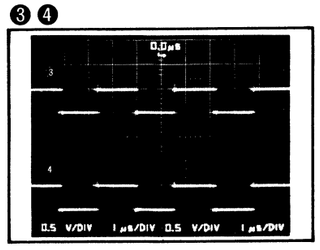


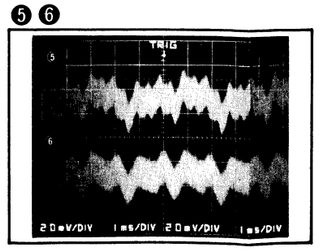
②



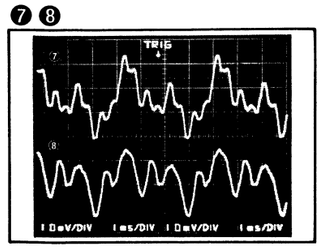
③ ④



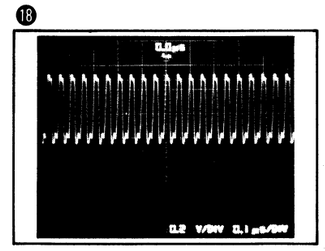
⑤ ⑥



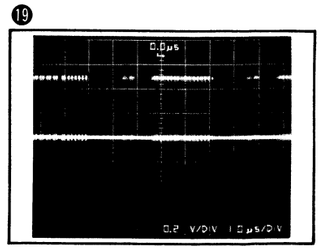
⑦ ⑧



⑱

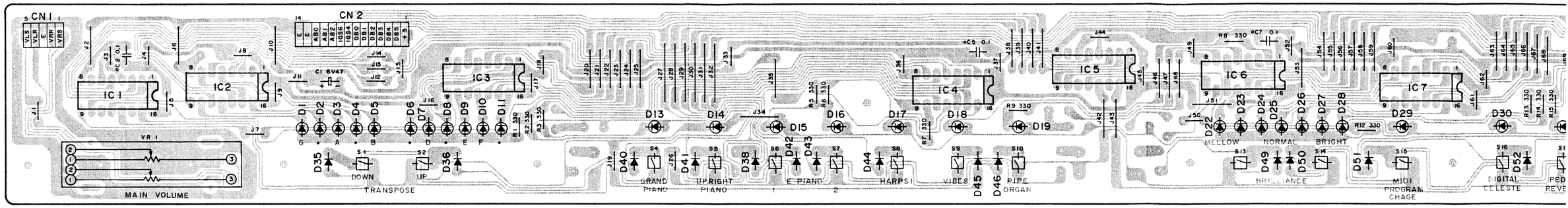


⑲

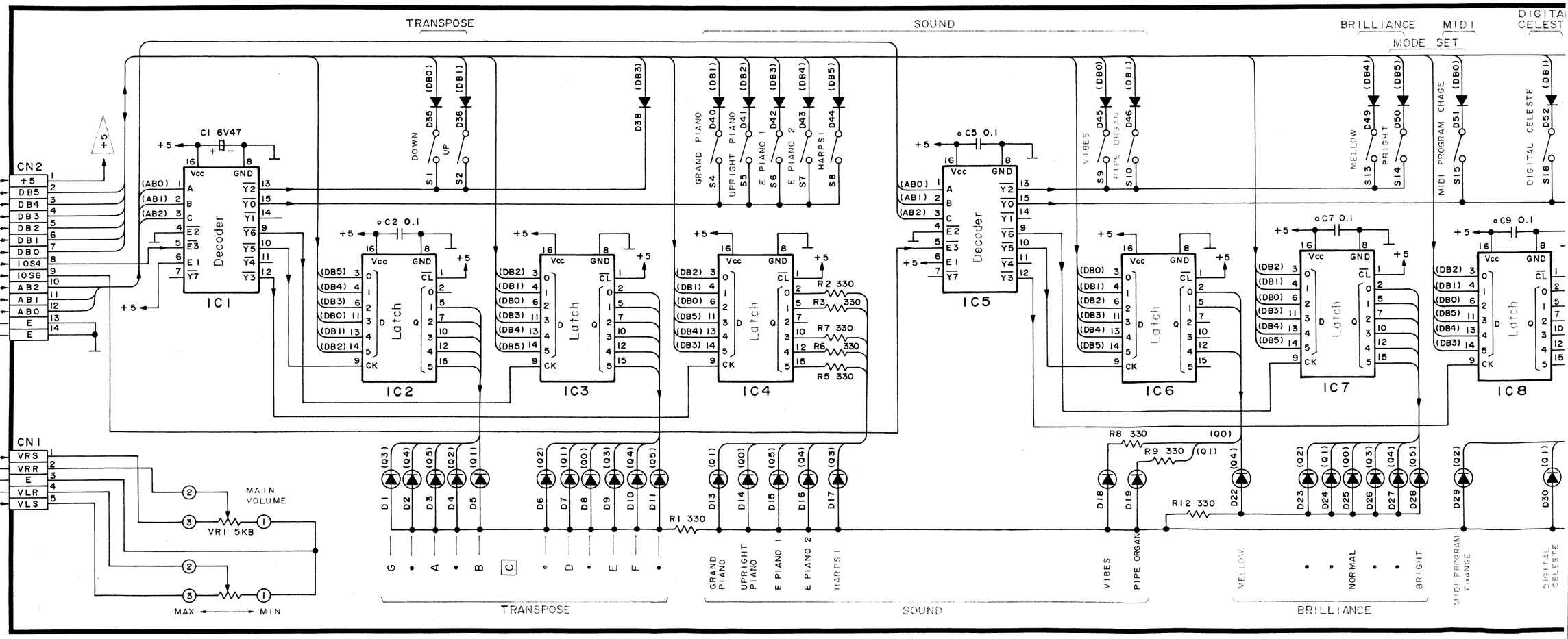


CONTROL PANEL CIRCUIT BOARD AND CIRCUIT DIAGRAM

CP CONTROL PANEL CIRCUIT BOARD



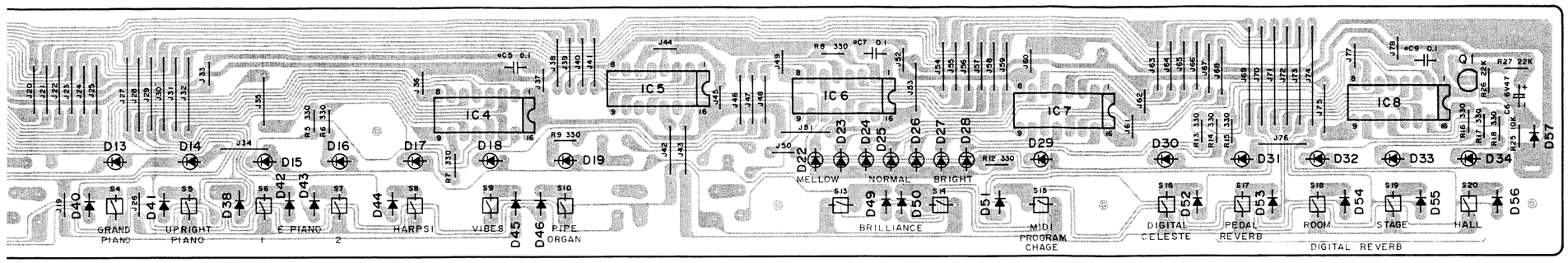
CP CONTROL PANEL CIRCUIT DIAGRAM

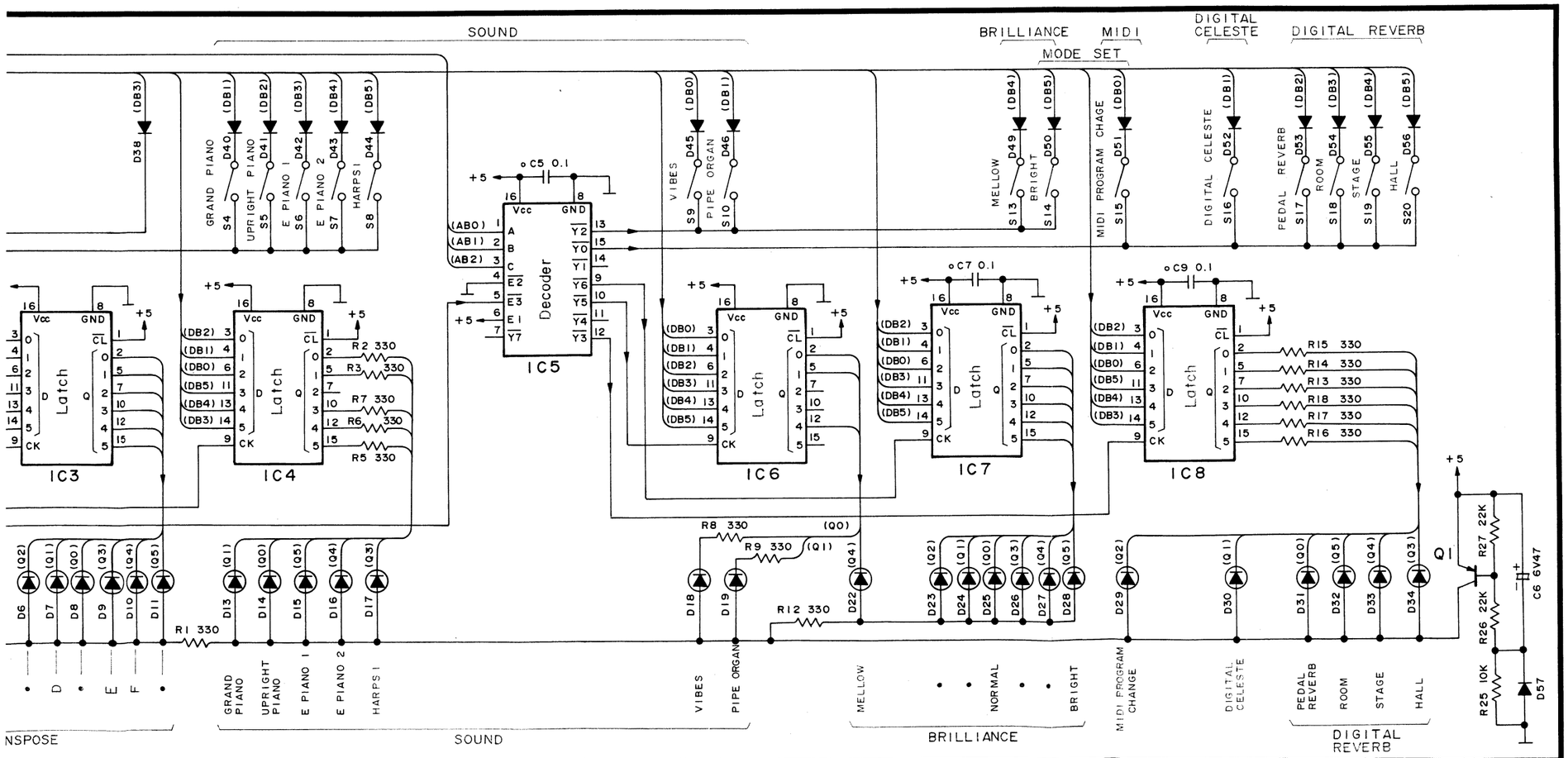


RCUIT DIAGRAM

5 6 7 8 9 10 11 12 13 14

SXPG203511





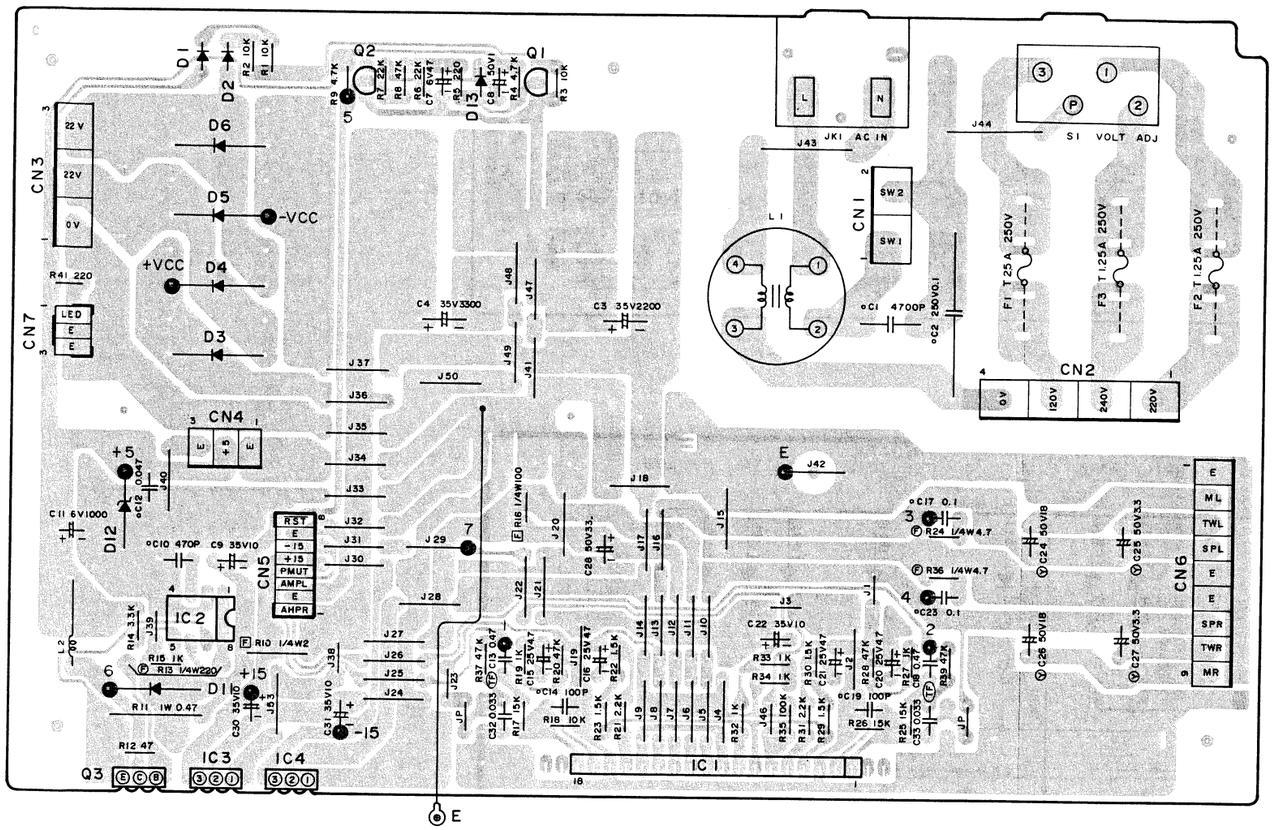
NOTES:

- IC'S
  - IC1, 5: SVIGM74LS138
  - IC2~4, 6~8: SVIGM74LS174
- TRANSISTOR
  - Q1: 2SA830SB
- DIODES
  - D1~11, 13~19, 22~24, 26~34: LN282R
  - D25: LN382G
  - D35, 36, 38, 40~46, 49~57: MA165TA5

AS AMP & POWER SUPPLY CIRCUIT BOARD

■ Except for [M] [MC] [XM] [XL] and [XR] **SXPG203751A**

■ Products for [XL] and [XR] **SXPG203781A**



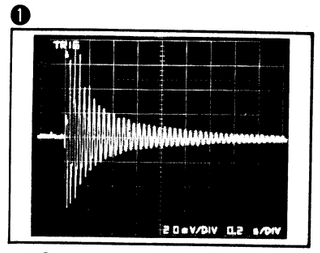
■ Measuring Conditions

1. The tone signal output varies with the level of key pressing force. In this measurement, the waveform obtained with maximum key pressing force is shown.
2. Set the initial mode before measurement.

NOTES:

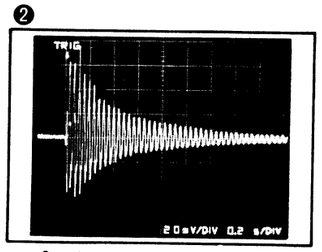
- IC'S
  - IC1: SVIGS4132M2M
  - IC2: SVIGM5291P
  - IC3: SVIGM5F7815
  - IC4: SVIGM5F7915
- TRANSISTORS
  - Q1, 2: 2SC2320LFG
  - Q3: 2SB953AQP
- DIODES
  - D1, 2: SVDGERA1502Y
  - D3~6: SVDGS3V20-15
  - D11: SVDGRK14S
  - D12: MA2062LF
  - D13: MA165TA5
- FUSES
  - F1: XBA2C25TB0
  - F2, 3: XBA2C12TB0

❶



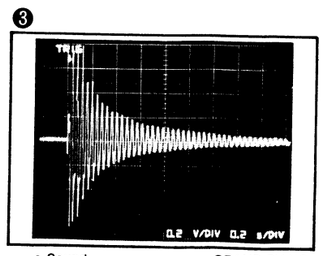
- Sound.....GRAND PIANO
- Main Vol. .....Max
- Keyboard .....C_{52}

❷



- Sound.....GRAND PIANO
- Main Vol. .....Max
- Keyboard .....C_{52}

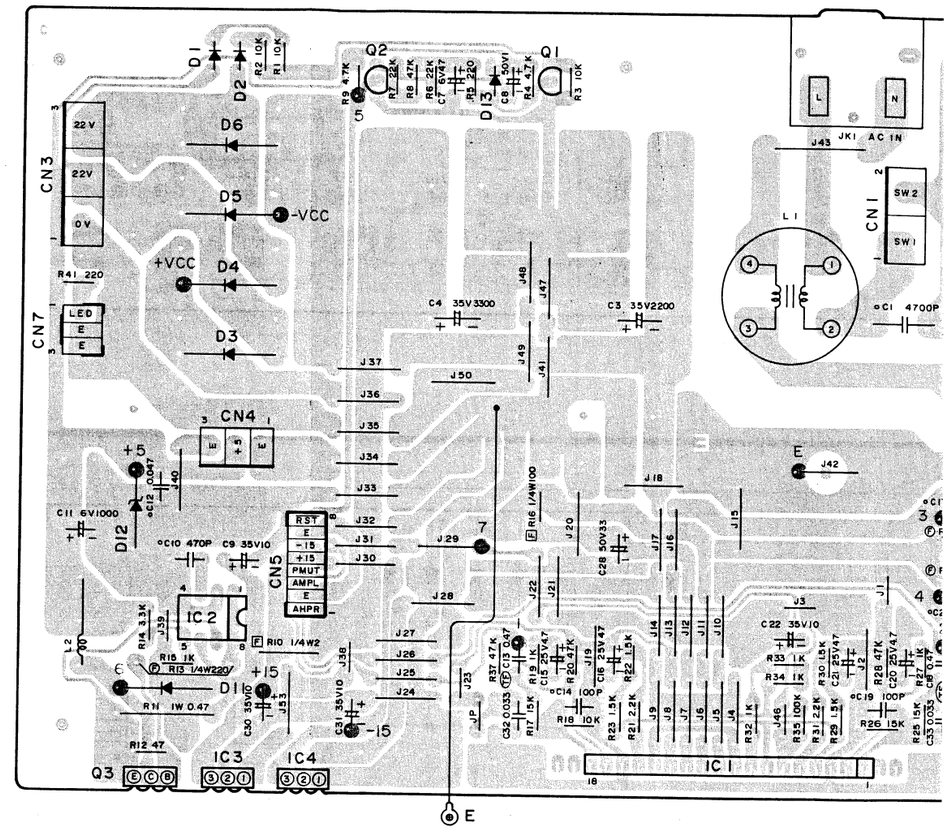
❸



- Sound.....GRAND PIANO
- Main Vol. .....Max
- Keyboard .....C_{52}

AS AMP & POWER SUPLY CIRCUIT DIAGRAM

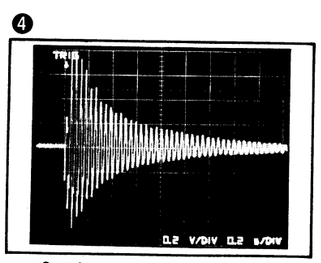
■ Products for [M] [MC] and [XM] areas **SXPG203771A**



NOTES:

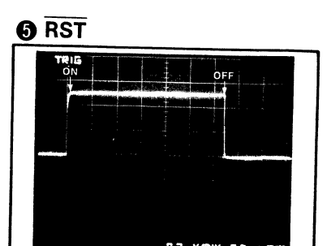
- IC'S
  - IC1: SVIGS4132M2M
  - IC2: SVIGM5291P
  - IC3: SVIGM5F7815
  - IC4: SVIGM5F7915
- TRANSISTORS
  - Q1, 2: 2SC2320LFG
  - Q3: 2SB953AQP

❹



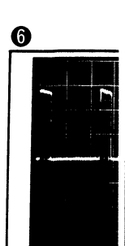
- Sound.....GRAND PIANO
- Main Vol. .....Max
- Keyboard .....C_{52}

❺ $\overline{\text{RST}}$



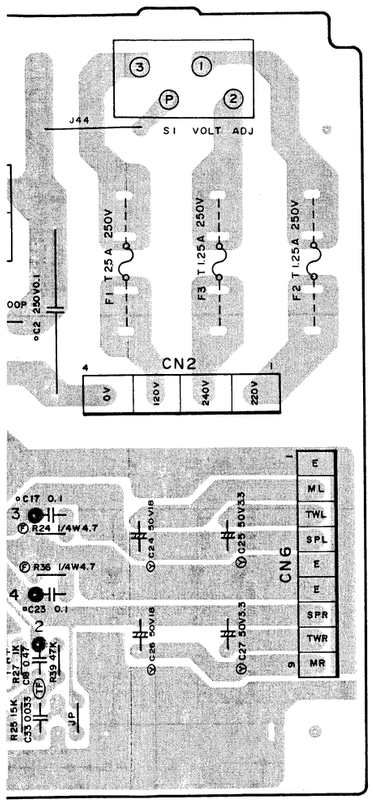
- Power SW.....ON→OFF

❻



5 6 7 8 9 10 11 12 13 14

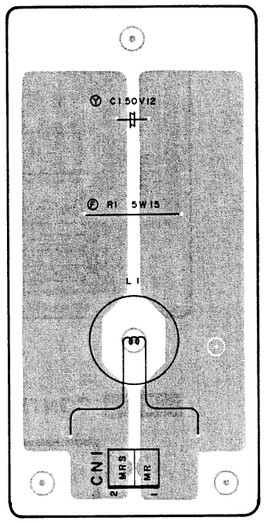
s for [XL] and [XR] **SXPG203781A**



AS **AMP & POWER SUPLY CIRCUIT DIAGRAM**

■ **Products for [M] [MC] and [XM] areas** **SXPG203771A**

PC **SXPG204711**



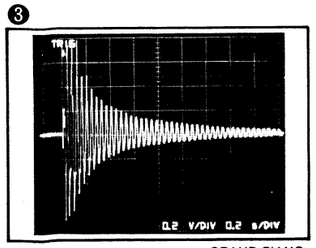
NOTES:

- IC'S
  - IC1: SVIGS4132M2M
  - IC2: SVIGM5291P
  - IC3: SVIGM5F7815
  - IC4: SVIGM5F7915
- TRANSISTORS
  - Q1, 2: 2SC2320LFG
  - Q3: 2SB953AQP
- DIODES
  - D1, 2: SVDGERA1502Y
  - D3~6: SVDGS3V20-15
  - D11: SVDGRK14S
  - D12: MA2062LF
  - D13: MA165TA5
- FUSES
  - F1: XBA1C40NU100

RS

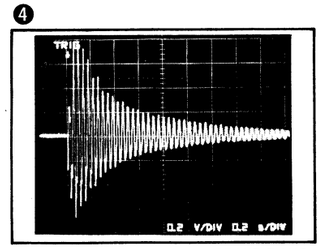
- IC'S
  - SVIGS4132M2M
  - SVIGM5291P
  - SVIGM5F7815
  - SVIGM5F7915
- TRANSISTORS
  - 2SC2320LFG
  - 2SB953AQP
- DIODES
  - D1, 2: SVDGERA1502Y
  - D3~6: SVDGS3V20-15
  - D11: SVDGRK14S
  - D12: MA2062LF
  - D13: MA165TA5
- FUSES
  - F1: XBA2C25TB0
  - F2, 3: XBA2C12TB0

❸



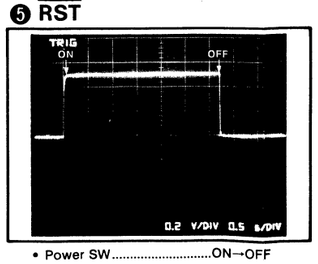
- Sound.....GRAND PIANO
- Main Vol. .....Max
- Keyboard .....C_{52}

❹



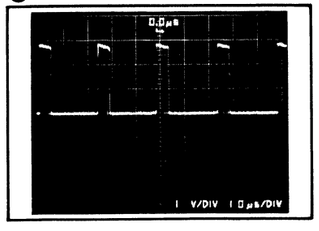
- Sound.....GRAND PIANO
- Main Vol. .....Max
- Keyboard .....C_{52}

❺ $\overline{\text{RST}}$

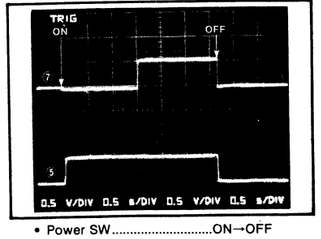


- Power SW.....ON→OFF

❻

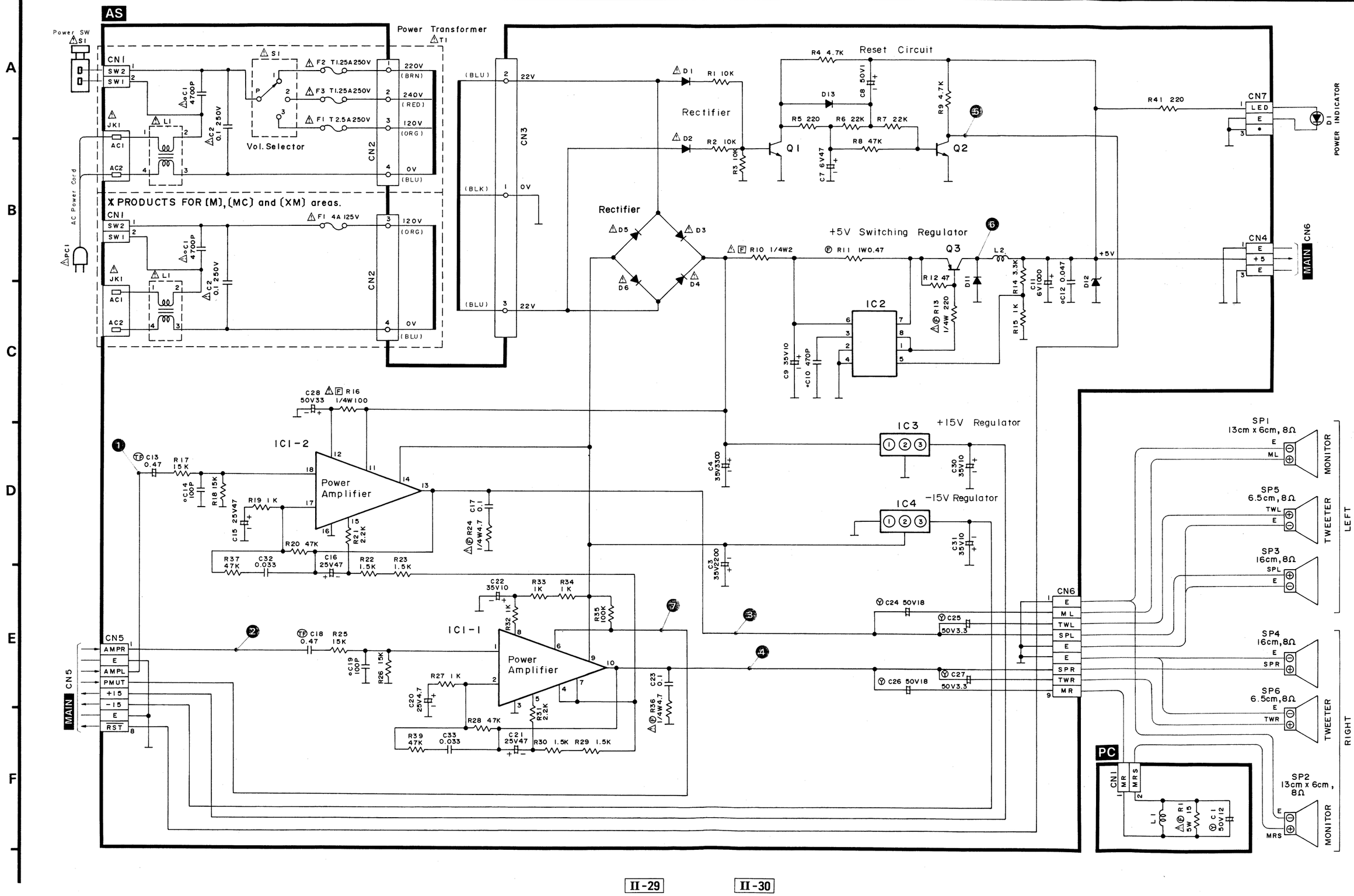


❼ $\overline{\text{PMUT}}$, ❺ $\overline{\text{RST}}$



- Power SW.....ON→OFF

AS PC AMP & POWER SUPPLY AND PEAK CANCELLER CIRCUIT DIAGRAM



REPLACEMENT PARTS LIST.....P.C.B. and Wiring Parts

Notes:

1. Printed circuit boards assembly with mark (NLA) is no longer available after production discontinuation of the complete set.
2. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The "S" mark is service standard parts and may differ from production parts.
4. ○ mark are new parts.
5. For part No. with area mark, check the area when placing an order.
6. Cabinet colour
   • SX-PX55 .....Black
   • SX-PX55M .....Walnut

■ PRINTED CIRCUIT BOARD

	NLA	Area	Part No.	Description	Per/Set
○	NLA		SXPG203651	MAIN	1
○	NLA		SXPG203711B	HP	1
○	NLA		SXPG203811A	MKB1	1
○	NLA		SXPG203811B	MKB2	1
○	NLA		SXPG146041	DRV	1
○	NLA		SXPG203511	CP	1
○	NLA	M Mc XM	SXPG203771A	AS	1
○	NLA	XL XR	SXPG203781A	AS	1
○	NLA	Others	SXPG203751A	AS	1
○	NLA		SXPG204711	PC	1

MAIN MAIN CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
	INTEGRATED CIRCUITS			
	IC1	SVIGM74LS07	Hex Buffers (O.C.)	1
	IC2	SVIGTLP513	Photo Coupler	1
	IC3	SVIG7810HCW	1 chip 8 bit Microcomputer	1
	IC4	SVIGM603A114	Gate Array	1
○	IC5	QSIG2PX55AX0	256K bit Programmable ROM	1
○	IC6	BR6116-100	16K bit Static RAM	1
○	IC7	MN73013PGD	Tone Generator LSI 2	1
○	IC8	MN73012PGC	Tone Generator LSI 1	1
○	IC9	QSIGH3C08C26	8M bit Wave ROM	1
○	IC10	QSIGH3C08C45	8M bit Wave ROM	1
	IC12	SVIGM74H04	Hex Inverters	1
	IC13	SVIGM5238L	Operational Amplifier	1
	IC14, 15	SVIGT74H4051	8-channel Multiplexer	2
	IC16, 17, 19, 20, 22, 23, 25	SVIGM5218L	Operational Amplifier	7
	IC21	SVIGLM1894N	Dynamic Noise Reduction	1
	IC26	SVIGPCM54	D-A Converter	1
	TRANSISTORS			
	Q3~12	2SJ105GR	FET	10
	Q13, 15	2SC3940ARS		2
	Q14, 20	2SA1534ARS		2
S	Q16, 18, 23	2SC2320LFG	2SC1310FG (SUB. Part)	3
S	Q17, 19, 21, 24, 25	2SA1015-GR	2SA933STRS (SUB. Part)	5
	Q22	2SC1047C		1

	Ref. No.	Part No.	Description	Per/Set
	DIODES			
	D1~8, 13, 15, 16	MA165TA5		11
	D9	MA4056	Zener, 5.6V	1
	D10, 11	MA4051MTA	Zener, 5.1V	2
	D12	SVDGRK14S	Diode	1
	D14	MA4062	Zener, 6.2V	1
	OSCILLATORS			
○	X1	QSXG1A1500A	15MHz, Quartz Oscillator	1
	X2	EF0FC4004A3	4MHz, Ceramic Oscillator	1
○	X3	QSXG1B4000A	40MHz, Quartz Oscillator	1
	COMPONENT COMBINATIONS			
	Z1, 2	EXBPI8472JM	4.7KΩ×8	2
○	Z3	EXBM16V221GA	220Ω×8	1
	Z4	EXAMR14A1002	1KΩ/2KΩ, Ladder Network	1
	COILS			
	L1~5, 8~10, 12~15	SLQG15W34DPQ	Coil	12
	JACKS			
○	JK1	QJSG002AA	PEDAL IN	1
	JK2~4	SJSG1370A	MIDI (THRU, OUT, IN)	3
	JK5~8	SJJG400A	AUX IN, LINE OUT	4
	VARIABLE RESISTOR			
	VR1	EVA06215B55G	500KΩ B, TUNE	1
	SEMI-FIXED RESISTOR			
	VR2	EVSG0E1B103A	10KΩ B, Offset Adj.	1
	RESISTORS			
	R1, 2	ERDS2TJ101	100Ω	2
	R3	ERDS2TJ221	220Ω	1
	R4, 5	ERDS2TJ101	100Ω	2
	R6	ERDS2TJ221	220Ω	1
	R7	ERDS2TJ221	220Ω	1
	R12	ERDS2TJ331	330Ω	1
	R13, 14	ER0S2CKF1001	1KΩ, ±1%	2
	R15 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	1
	R16~20	ERDS2TJ472	4.7KΩ	5
	R21	ERDS2TJ332	3.3KΩ	1
	R22	ERDS2TJ153	15KΩ	1

	Ref. No.	Part No.	Description	Per/Set
	R23	ERDS2TJ105	1MΩ	1
	R24	ERDS2TJ101	100Ω	1
	R25	ERDS2TJ103	10KΩ	1
	R26	ERDS2TJ472	4.7KΩ	1
	R27, 28	ERDS2TJ103	10KΩ	2
	R29	ERDS2TJ472	4.7KΩ	1
	R30	ERDS2TJ103	10KΩ	1
	R31	ERDS2TJ102	1KΩ	1
	R32, 33	ERDS2TJ103	10KΩ	2
	R34	ERDS2TJ681	680Ω	1
	R35	ERDS2TJ152	1.5KΩ	1
	R36, 37	ERDS2TJ103	10KΩ	2
	R38	ERDS2TJ105	1MΩ	1
	R39	ERDS2TJ103	10KΩ	1
	R40	ERDS2TJ102	1KΩ	1
	R41	ERDS2TJ103	10KΩ	1
	R42	ERDS2TJ102	1KΩ	1
	R43~50	ERDS2TJ101	100Ω	8
	R51	ERDS2TJ473	47KΩ	1
	R52	ERDS2TJ184	180KΩ	1
	R53	ERDS2TJ563	56KΩ	1
	R54	ERDS2TJ154	150KΩ	1
	R55	ERDS2TJ683	68KΩ	1
	R56	ERDS2TJ124	120KΩ	1
	R57	ERDS2TJ823	82KΩ	1
	R58, 59	ERDS2TJ104	100KΩ	2
	R60	ERDS2TJ823	82KΩ	1
	R61	ERDS2TJ124	120KΩ	1
	R62	ERDS2TJ683	68KΩ	1
	R63	ERDS2TJ154	150KΩ	1
	R64	ERDS2TJ563	56KΩ	1
	R65	ERDS2TJ184	180KΩ	1
	R66	ERDS2TJ473	47KΩ	1
	R67	ERDS2TJ224	220KΩ	1
	R68	ERDS2TJ223	22KΩ	1
	R69	ERDS2TJ224	220KΩ	1
	R70	ERDS2TJ472	4.7KΩ	1
	R71	ERDS2TJ222	2.2KΩ	1
	R72	ERDS2TJ472	4.7KΩ	1
	R73~75	ERDS2TJ333	33KΩ	3
	R76	ERDS2TJ222	2.2KΩ	1
	R77, 78	ERDS2TJ472	4.7KΩ	2
	R79~81	ERDS2TJ333	33KΩ	3
	R82	ERDS2TJ104	100KΩ	1
	R83, 84	ERDS2TJ472	4.7KΩ	2
	R85	ERDS2TJ103	10KΩ	1
	R86	ERDS2TJ472	4.7KΩ	1
	R88	ERDS2TJ103	10KΩ	1
	R89, 90	ERDS2TJ221	220Ω	2
	R91~96	ERDS2TJ103	10KΩ	6
	R97	ERDS2TJ222	2.2KΩ	1
	R98	ERDS2TJ473	47KΩ	1
	R99	ERDS2TJ472	4.7KΩ	1
	R100	ERDS2TJ222	2.2KΩ	1
	R101, 102	ERDS2TJ104	100KΩ	2
	R103	ERDS2TJ471	470Ω	1
	R104	ERDS2TJ334	330KΩ	1
	R105	ERDS2TJ223	22KΩ	1
	R106~108	ERDS2TJ104	100KΩ	3
	R109	ERDS2TJ224	220KΩ	1
	R110, 111	ERDS2TJ104	100KΩ	2
	R112, 113	ERDS2TJ473	47KΩ	2
	R114	ERDS2TJ223	22KΩ	1
	R115	ERDS2TJ222	2.2KΩ	1
	R116	ERDS2TJ221	220Ω	1
	R117, 118	ERDS2TJ102	1KΩ	2
	R119	ERDS2TJ104	100KΩ	1
	R120	ERDS2TJ223	22KΩ	1

	Ref. No.	Part No.	Description	Per/Set
	R121	ERDS2TJ103	10KΩ	1
	R122~124	ERDS2TJ104	100KΩ	3
	R125	ERDS2TJ224	220KΩ	1
	R126, 127	ERDS2TJ104	100KΩ	2
	R128, 129	ERDS2TJ473	47KΩ	2
	R130	ERDS2TJ223	22KΩ	1
	R131	ERDS2TJ102	1KΩ	1
	R132	ERDS2TJ224	220KΩ	1
	R133	ERDS2TJ474	470KΩ	1
	R134	ERDS2TJ104	100KΩ	1
	R135	ERDS2TJ224	220KΩ	1
	R136	ERDS2TJ474	470KΩ	1
	R137	ERDS2TJ104	100KΩ	1
	R138, 139	ERDS2TJ472	4.7KΩ	2
	R140	ERDS2TJ331	330Ω	1
	R141	ERDS2TJ222	2.2KΩ	1
	R142	ERDS2TJ102	1KΩ	1
	R143	ERDS2TJ331	330Ω	1
	R146	ERDS2TJ334	330KΩ	1
	R147	ERDS2TJ222	2.2KΩ	1
	R148	ERDS2TJ184	180KΩ	1
	R149	ERDS2TJ224	220KΩ	1
	R150	ERDS2TJ184	180KΩ	1
	R151	ERDS2TJ224	220KΩ	1
	R152	ERDS2TJ334	330KΩ	1
	R153	ERDS2TJ222	2.2KΩ	1
	R154, 155	ERDS2TJ102	1KΩ	2
	R156, 157	ERDS2TJ224	220KΩ	2
	R158, 159	ERDS2TJ473	47KΩ	2
	R160, 161	ERDS2TJ104	100KΩ	2
	R162, 163	ERDS2TJ332	3.3KΩ	2
	R164	ERDS2TJ102	1KΩ	1
	R165, 166	ERDS2TJ222	2.2KΩ	2
	R167	ERDS2TJ102	1KΩ	1
	R168 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	1
	R172	ERDS2TJ103	10KΩ	1
	R173 ⚠	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	1
	R174	ERDS2TJ223	22KΩ	1
	R175	ERDS2TJ103	10KΩ	1
	R176	ERDS2TJ223	22KΩ	1
	R177	ERDS2TJ103	10KΩ	1
	R183	ERDS2TJ224	220KΩ	1
	R184	ERDS2TJ220	22Ω	1
	R185	ERDS2TJ684	680KΩ	1
	R186	ERDS2TJ334	330KΩ	1
	R187	ERDS2TJ220	22Ω	1
	R188	ERDS2TJ684	680KΩ	1
	R189	ERDS2TJ334	330KΩ	1
	R190	ERDS2TJ224	220KΩ	1
	R194	ERDS2TJ104	100KΩ	1
	CAPACITORS			
	C1, 2	ECKR1E473ZV	0.047μF	2
	C3	ECEA0JKA470	47μF, 6.3V	1
	C4	ECKR1E473ZV	0.047μF	1
	C5, 6	ECCR1H220J	22pF	2
	C7	ECEA0JKA470	47μF, 6.3V	1
	C8, 9	ECKR1E473ZV	0.047μF	2
	C11	ECEA1HKA010	1μF, 50V	1
	C12, 13	ECKR1E473ZV	0.047μF	2
	C14	ECRR1H104ZF	0.1μF	1
	C15	AC2061G473Z5	5.5V 0.047F	1
	C16	ECEA0JKA470	47μF, 6.3V	1
	C18, 19	ECKR1E473ZV	0.047μF	2
	C20, 21	ECEA0JKA470	47μF, 6.3V	2
	C22	ECKR1E473ZV	0.047μF	1

Ref. No.	Part No.	Description	Per/Set
C25, 26	ECCR1H330J	33pF	2
C27, 28	ECEA1CKA100	10μF, 16V	2
C30	ECEA1CKN100	10μF, 16V	1
C32, 33	ECEA1CKA100	10μF, 16V	2
C34, 35	ECKR1E473ZV	0.047μF	2
C36~43	ECQG1H222KZ	0.0022μF	8
C44, 45	ECCR1H680J	68pF	2
C47, 48	ECQG1H102KZ	0.001μF	2
C49	ECQG1H222KZ	0.0022μF	1
C50	ECCR1H681J	680pF	1
C51	ECCR1H471J	470pF	1
C52	ECCR1H101J	100pF	1
C53	ECEA1HKN010	1μF, 50V	1
C54, 55	ECQG1H102KZ	0.001μF	2
C57	ECQG1H222KZ	0.0022μF	1
C58	ECCR1H681J	680pF	1
C59	ECCR1H471J	470pF	1
C60	ECCR1H101J	100pF	1
C61	ECEA1HKN010	1μF, 50V	1
C63~66	ECKR1E473ZV	0.047μF	4
C67	ECEA1HKA010	1μF, 50V	1
C68	ECCR1H220J	22pF	1
C69	ECCR1H681J	680pF	1
C70	ECQG1H102KZ	0.001μF	1
C71	ECCR1H331J	330pF	1
C73	ECCR1H220J	22pF	1
C74	ECQG1H332KZ	0.0033μF	1
C75	ECCR1H681J	680pF	1
C76	ECQG1H102KZ	0.001μF	1
C77	ECCR1H331J	330pF	1
C79~82	ECKR1E473ZV	0.047μF	4
C83~85	ECCR1H220J	22pF	3
C86, 87	ECEA1CKA470	47μF, 16V	2
C88	ECEA1CKA100	10μF, 16V	1
C89, 90	ECQG1H472KZ	0.0047μF	2
C91	ECRR1H104ZF	0.1μF	1
C92	ECQG1H102KZ	0.001μF	1
C93	ECKR1E473ZV	0.047μF	1
C94	ECEA0JKA470	47μF, 6.3V	1
C95	ECEA1HKA010	1μF, 50V	1
C96	ECQG1H332KZ	0.0033μF	1
C97, 98	ECCR1H100J	10pF	2
C99	ECCR1H220J	22pF	1
C100	ECKR1E473ZV	0.047μF	1
C101	ECCR1H100J	10pF	1
C102	ECEA1HKN010	1μF, 50V	1
C103	ECQM1H103KV	0.01μF	1
C104	ECQM1H223KV	0.022μF	1
C105	ECQM1H103KV	0.01μF	1
C106	ECQM1H223KV	0.022μF	1
C107, 108	ECKR1E473ZV	0.047μF	2
C109	ECEA1HKN010	1μF, 50V	1
C110	ECCR1H100J	10pF	1
C111	ECEA1CKA101	100μF, 16V	1
C112, 113	ECEA1HKA010	1μF, 50V	2
C114, 115	ECEA1CKA100	10μF, 16V	2
C116	ECEA1CKA101	100μF, 16V	1
C117	ECKR1E473ZV	0.047μF	1
C118	ECEA1EKA4R7	4.7μF, 25V	1
C119	ECKR1E473ZV	0.047μF	1
C120	ECQG1H332KZ	0.0033μF	1
C121, 122	ECKR1E473ZV	0.047μF	2
C123	ECEA0JKA331	330μF, 6.3V	1
C124	ECEA1CKA100	10μF, 16V	1
C125	ECEA1HKA010	1μF, 50V	1
C129, 130	ECKR1E473ZV	0.047μF	2
C131	ECKR1E473ZV	0.047μF	1
C132~136	ECKR1E473ZV	0.047μF	5
C138, 139	ECKR1E473ZV	0.047μF	2
C140, 141	ECQG1H102KZ	0.001μF	2
C200	ECRR1H104ZF	0.1μF	1
C203	ECSF1EE225	2.2μF, 25V	1
C204	ECRR1H104ZF	0.1μF	1
C206	ECCR1H471J	470pF	1
C207	ECRR1H104ZF	0.1μF	1
C208	ECCR1H331J	330pF	1
C209	ECRR1H104ZF	0.1μF	1
C210, 211	ECCR1H331J	330pF	2
C212	ECRR1H104ZF	0.1μF	1
C213	ECCR1H331J	330pF	1
C214, 215	ECRR1H104ZF	0.1μF	2

HP HEADPHONES CIRCUIT

Ref. No.	Part No.	Description	Per/Set
COIL			
L1	SLQG15W34DPQ	Coil	1
JACK			
JK1	SJJG100A	Headphones	1
RESISTORS			
R1, 2 ⚠	ERG1ANJP680S	68Ω, 1W, Flame-Proof	2
CAPACITORS			
C1, 2	ECCR1H331J	330pF	2
C3	ECRR1H104ZF	0.1μF	1

MKB1 MANUAL KEYBOARD 1 CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	MN50020PGV	Gate Array	1
IC2	MN1231	1k bit Programmable ROM	1
DIODES			
S D1~88	MA162A	MA150IR (SUB. Part)	88
OSCILLATOR			
X1	EF0FC4004A3	4MHz, Ceramic Oscillator	1

	Ref. No.	Part No.	Description	Per/Set
		RESISTORS		
	R1	ERDS2TJ101	100Ω	1
	R2	ERDS2TJ103	10KΩ	1
	R3	ERDS2TJ222	2.2KΩ	1
	R4	ERDS2TJ472	4.7KΩ	1
		CAPACITORS		
	C1	ECCR1H681J	680pF	1
	C2	ECRR1H104ZF	0.1μF	1
	C3	ECCR1H681J	680pF	1
	C4	ECEA0JKA470	47μF, 6.3V	1
	C5	ECRR1H104ZF	0.1μF	1

MKB2 MANUAL KEYBOARD 2 CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
		DIODES		
S	D89~176	MA162A	MA150IR (SUB. Part)	88
		COMPONENT COMBINATION		
	Z1	EXBPI8472JM	4.7KΩ×8	1

DRV DIGITAL REVERB CIRCUIT

	Ref. No.	Part No.	Description	Per/Set
		INTEGRATED CIRCUITS		
	IC1	MN1280R	Reset IC	1
	IC2	SVIGHM65256	256K bit Pseudo Static RAM	1
	IC3	SVIGMB622416	Gate Array	1
	IC4	MN8305S	A-D/D-A Converter	1
	IC5	SVIG87064075	Digital Signal Processor	1
	IC6	SVIGM5278L05	+5V Voltage Regulator	1
	IC7	SVIGM5220L	Operational Amplifier	1
	IC8~10	SVIGM5218L	Operational Amplifier	3
	IC11	SVIGLM1894N	Dynamic Noise Reduction	1
	IC12	MN74HC02S	Quad 2-Input NOR Gates	1
		TRANSISTORS		
	Q1, 2	2SJ105GR	FET	2
		DIODES		
	D1~5	MA165TA5		5
	D6	EK04		1
		OSCILLATOR		
	X1	SVQGA20MX040	20MHz, Ceramic Oscillator	1

	Ref. No.	Part No.	Description	Per/Set
		COMPONENT COMBINATION		
	ZC1	EXFP8101MW	100pF×8	1
		COIL		
	L1	SLQG15W34DPQ	Coil	1
		SEMI-FIXED RESISTOR		
	VR1	EVND4AA00B14	10KΩ B, DRV bias	1
		RESISTORS		
	R1	ERDS2TJ333	33KΩ	1
	R2	ERDS2TJ682	6.8KΩ	1
	R3, 4	ERDS2TJ473	47KΩ	2
	R5	ERDS2TJ393	39KΩ	1
	R6, 7	ERDS2TJ103	10KΩ	2
	R8	ERDS2TJ473	47KΩ	1
	R9	ERDS2TJ152	1.5KΩ	1
	R10	ERDS2TJ563	56KΩ	1
	R11	ERDS2TJ183	18KΩ	1
	R12, 13	ERDS2TJ823	82KΩ	2
	R14	ERDS2TJ153	15KΩ	1
	R15	ERDS2TJ103	10KΩ	1
	R16	ERDS2TJ472	4.7KΩ	1
	R17	ERDS2TJ153	15KΩ	1
	R18	ERDS2TJ103	10KΩ	1
	R19	ERDS2TJ472	4.7KΩ	1
	R20	ERDS2TJ682	6.8KΩ	1
	R21~23	ERDS2TJ473	47KΩ	3
	R24	ERDS2TJ682	6.8KΩ	1
	R25~27	ERDS2TJ473	47KΩ	3
	R36, 37	ERDS2TJ331	330Ω	2
	R38	ERDS2TJ102	1KΩ	1
	R39	ERDS2TJ221	220Ω	1
	R40, 41	ERDS2TJ473	47KΩ	2
	R44, 45	ERDS2TJ472	4.7KΩ	2
	R46, 47	ERDS2TJ221	220Ω	2
⚠	R50~52	ERD2FCJ4R7	4.7Ω, 1/4W, Fuse Type	3
⚠	R53, 54	ERD2FCG100	10Ω, 1/4W, Fuse Type	2
	R55	ERDS2TJ105	1MΩ	1
	R58, 59	ERDS2TJ101	100Ω	2
	R62~66	ERDS2TJ152	1.5KΩ	5
	R68~70	ERDS2TJ472	4.7KΩ	3
	R71	ERDS2TJ225	2.2MΩ	1
	R72	ERDS2TJ332	3.3KΩ	1
	R73, 74	ERDS2TJ225	2.2MΩ	2
	R75	ERDS2TJ682	6.8KΩ	1
	R76	ERDS2TJ332	3.3KΩ	1
		CAPACITORS		
	C1	ECQB1H153JZ	0.015μF	1
	C2	ECQG1H682KZ	0.0068μF	1
	C3, 4	ECCR1H471J	470pF	2
	C5	ECCR1H101J	100pF	1
	C6	ECEA1HKA010	1μF, 50V	1
	C8	ECEA1HKA010	1μF, 50V	1
	C9	ECQG1H152KZ	0.0015μF	1
	C10	ECCR1H151J	150pF	1
	C11	ECEA1HKA010	1μF, 50V	1
	C12, 13	ECQG1H472KZ	0.0047μF	2
	C14, 15	ECCR1H471J	470pF	2
	C16	ECCR1H101J	100pF	1
	C17	ECEA1HKA010	1μF, 50V	1

Ref. No.	Part No.	Description	Per/Set
C18, 19	ECQG1H472KZ	0.0047µF	2
C20, 21	ECCR1H471J	470pF	2
C22	ECCR1H101J	100pF	1
C31, 32	ECEA1HKA010	1µF, 50V	2
C33	ECEA1HKAR22	0.22µF, 50V	1
C34	ECQB1H103JZ	0.01µF	1
C35	ECEA1HKAR22	0.22µF, 50V	1
C36	ECQB1H103JZ	0.01µF	1
C37	ECQV1H473JZ	0.047µF	1
C38	ECQV1H104JZ	0.1µF	1
C39	ECQB1H103JZ	0.01µF	1
C40	ECQG1H332KZ	0.0033µF	1
C41	ECEA1CKA470	47µF, 16V	1
C42	ECEA1CKA100	10µF, 16V	1
C43	ECEA1CKA470	47µF, 16V	1
C50~52	ECEA0JKA101	100µF, 6.3V	3
C53	ECEA0JU102	1000µF, 6.3V	1
C54	ECEA0JU331	330µF, 6.3V	1
C55, 56	ECEA1CKA101	100µF, 16V	2
C57	ECCR1H101J	100pF	1
C58, 59	ECCR1H100J	10pF	2
C60	ECKR1E473ZV	0.047µF	1
C62, 63	ECKR1E473ZV	0.047µF	2
C65, 66	ECCR1H470J	47pF	2
C67	ECRR1H104ZF	0.1µF	1
C68	ECEA1HKN010	1µF, 50V	1
C69	ECEA1HKA010	1µF, 50V	1
C70, 71	ECCR1H101J	100pF	2
C72	ECKR1E473ZV	0.047µF	1
C73	ECRR1H104ZF	0.1µF	1
C100	ECRR1H104ZF	0.1µF	1

CP CONTROL PANEL CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1, 5	SVIGM74LS138	Decoder	2
IC2~4, 6~8	SVIGM74LS174	Hex D-type Flip-Flops	6
TRANSISTOR			
Q1	2SA830SB		1
DIODES			
D1~11, 13~19, 22~24, 26~34	LN282R	LED (Red)	30
D25	LN382G	LED (Green)	1
D35, 36, 38, 40~46, 49~57	MA165TA5		19
SWITCHES			
S1~17	SSHG1046A	Push Switch	17

Ref. No.	Part No.	Description	Per/Set
VARIABLE RESISTOR			
VR1	EWD06910B53G	5KΩ B, Main Volume	1
RESISTORS			
R1~3	ERDS2TJ331	330Ω	3
R5~9	ERDS2TJ331	330Ω	5
R12~18	ERDS2TJ331	330Ω	7
R25	ERDS2TJ103	10KΩ	1
R26, 27	ERDS2TJ223	22KΩ	2
CAPACITORS			
C1	ECEA0JKA470	47µF, 6.3V	1
C2	ECRR1H104ZF	0.1µF	1
C5	ECRR1H104ZF	0.1µF	1
C6	ECEA0JKA470	47µF, 6.3V	1
C7	ECRR1H104ZF	0.1µF	1
C9	ECRR1H104ZF	0.1µF	1

AS AMP & POWER SUPPLY CIRCUIT

Ref. No.	Part No.	Description	Per/Set
INTEGRATED CIRCUITS			
IC1	SVIGS4132M2M	Power Amplifier	1
IC2	SVIGM5291P	Switching Regulator	1
IC3	SVIGM5F7815	+15V Voltage Regulator	1
IC4	SVIGM5F7915	−15V Voltage Regulator	1
TRANSISTORS			
S Q1, 2	2SC2320LFG	2SC1310FG (SUB. Part)	2
Q3	2SB953AQP		1
DIODES			
D1, 2 ⚠	SVDGERA1502Y	Rectifier	2
S D3~6 ⚠	SVDGS3V20-15	Rectifier	4
D11	SVDGRK14S	Diode	1
D12	MA2062LF	Zener, 6.2V	1
D13	MA165TA5		1
COILS & LINE FILTERS			
L1 ⚠	SLTGLF3	Line Filter	1
L2	SLCGR8121D	Coil	1
JACKS			
JK1 XL XR ⚠	SJSD16	AC IN	1
JK1 ⚠	SJS9236	AC IN, other areas	1
SWITCH			
S1 ⚠	SSRG100A	Voltage Selector, except for [M][MC][XM]	1 0

Ref. No.	Part No.	Description	Per/Set
FUSES			
F1 M MC XM ⚠	XBA1C40NU100	4A, 125V	1
F1 ⚠	XBA2C25TB0	T2.5A, 250V } other areas	1
F2, 3 ⚠	XBA2C12TB0	T1.25A, 250V } other areas	2
RESISTORS			
R1~3	ERDS2TJ103	10KΩ	3
R4	ERDS2TJ472	4.7KΩ	1
R5	ERDS2TJ221	220Ω	1
R6, 7	ERDS2TJ223	22KΩ	2
R8	ERDS2TJ473	47KΩ	1
R9	ERDS2TJ472	4.7KΩ	1
R10 ⚠	ERQ14AJ2R0P	2Ω, 1/4W, Fuse Type	1
R11 ⚠	ERX1ANJPR47S	0.47Ω, 1W, Flame-Proof	1
R12	ERDS2TJ470	47Ω	1
R13 ⚠	ERG1ANJP221S	220Ω, 1W, Flame-Proof	1
R14	ERDS2TJ332	3.3KΩ	1
R15	ERDS2TJ102	1KΩ	1
R16 ⚠	ERD2FCG101	100Ω, 1/4W, Fuse Type	1
R17, 18	ERDS2TJ153	15KΩ	2
R19	ERDS2TJ102	1KΩ	1
R20	ERDS2TJ473	47KΩ	1
R21	ERDS2TJ222	2.2KΩ	1
R22, 23	ERDS2TJ152	1.5KΩ	2
R24 ⚠	ERD25FVJ4R7	4.7Ω, 1/4W, Flame-Proof	1
R25, 26	ERDS2TJ153	15KΩ	2
R27	ERDS2TJ102	1KΩ	1
R28	ERDS2TJ473	47KΩ	1
R29, 30	ERDS2TJ152	1.5KΩ	2
R31	ERDS2TJ222	2.2KΩ	1
R32~34	ERDS2TJ102	1KΩ	3
R35	ERDS2TJ104	100KΩ	1
R36 ⚠	ERD25FVJ4R7	4.7Ω, 1/4W, Flame-Proof	1
R37	ERDS2TJ473	47KΩ	1
R39	ERDS2TJ473	47KΩ	1
R41	ERDS2TJ221	220Ω	1
CAPACITORS			
C1 ⚠	ECKCVA1472MF	4700pF, Line-Capacitor	1
C2 ⚠	ECQU2A104MN	0.1µF, 250V, Across-the Line Capacitor	1
C3	ECEA1VU222	2200µF, 35V	1
C4	ECEA1VU332	3300µF, 35V	1
C7	ECEA0JKA470	47µF, 6.3V	1
C8	ECEA1HKA010	1µF, 50V	1
C9	ECEA1VKG100	10µF, 35V	1
C10	ECCR1H471J	470pF	1
C11	ECEA0JU102	1000µF, 6.3V	1
C12	ECKR1E473ZV	0.047µF	1
C13	ECQV1H474JZ	0.47µF	1
C14	ECCR1H101J	100pF	1
C15	ECEA1EKA4R7	4.7µF, 25V	1
C16	ECEA1EKA470	47µF, 25V	1
C17	ECRR1H104ZF	0.1µF	1
C18	ECQV1H474JZ	0.47µF	1
C19	ECCR1H101J	100pF	1
C20	ECEA1EKA4R7	4.7µF, 25V	1
C21	ECEA1EKA470	47µF, 25V	1
C22	ECEA1VKG100	10µF, 35V	1
C23	ECRR1H104ZF	0.1µF	1
○ C24	ECEA50Y18K	18µF, 50V	1

Ref. No.	Part No.	Description	Per/Set
○ C25	ECEA50Y3R3	3.3µF, 50V	1
○ C26	ECEA50Y18K	18µF, 50V	1
C27	ECEA50Y3R3	3.3µF, 50V	1
C28	ECEA1HKA330	33µF, 50V	1
C30, 31	ECEA1VKG100	10µF, 35V	2
C32, 33	ECQM1H333KV	0.033µF	2

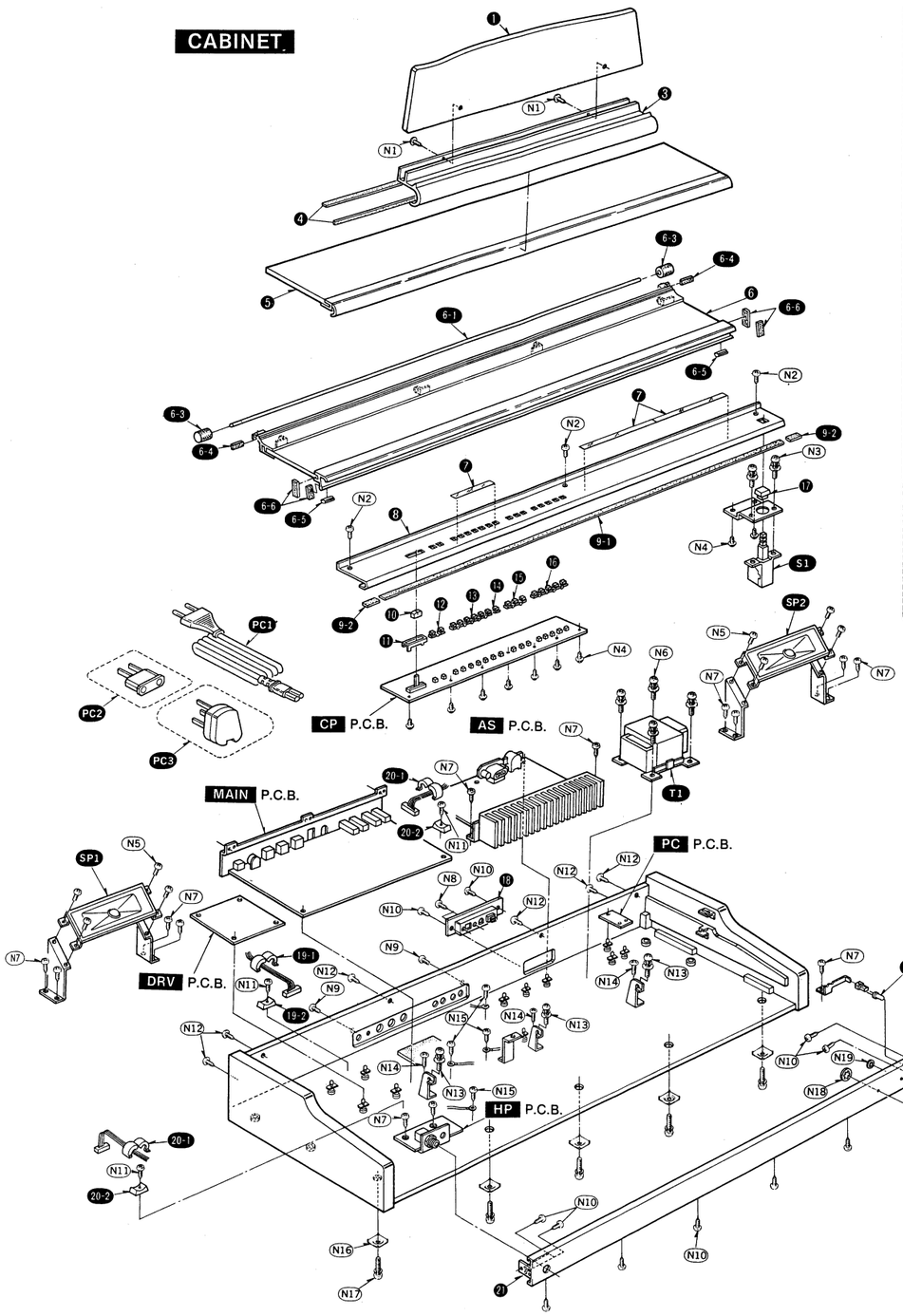
PC PEAK CANCELLER

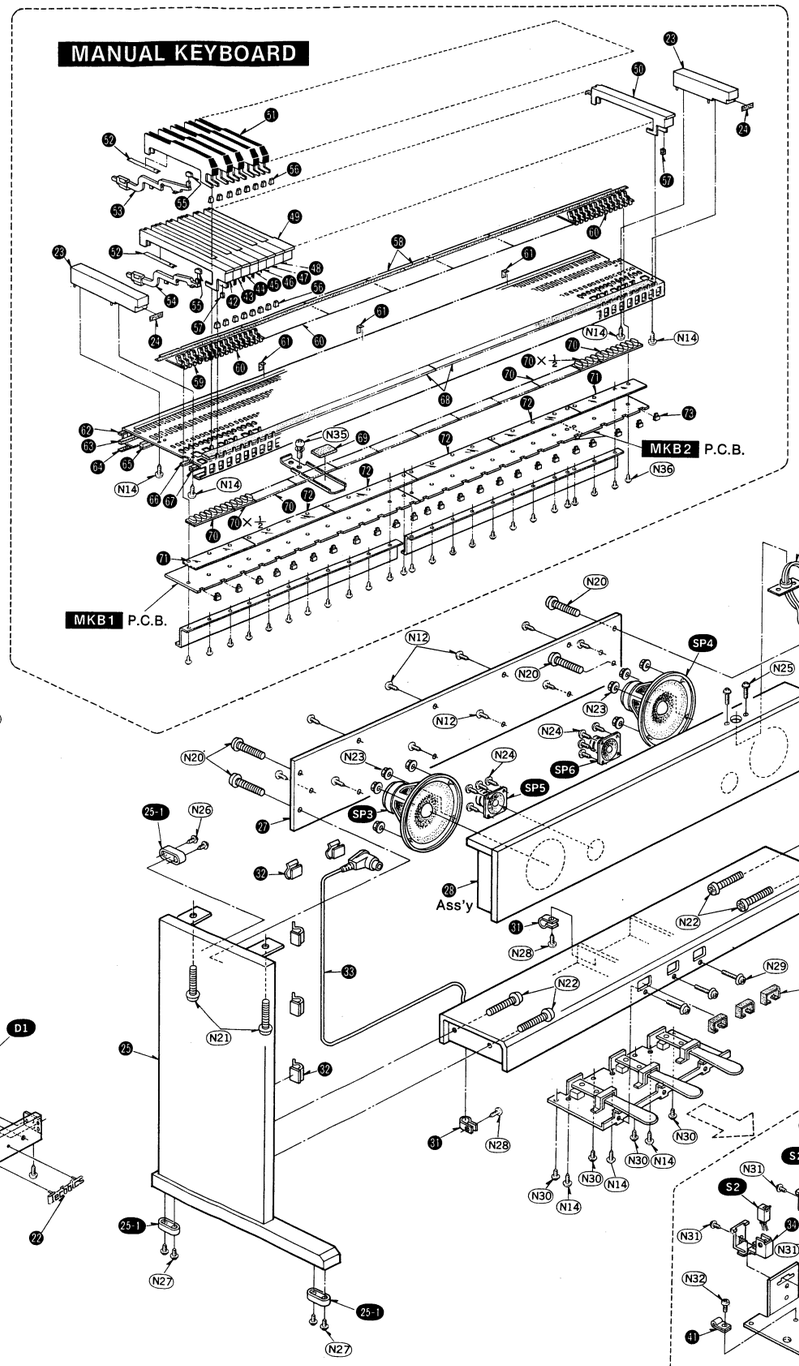
Ref. No.	Part No.	Description	Per/Set
COIL			
L1	SLCSC681KU	680µH	1
RESISTOR			
R1 ⚠	ERF5ZXJ150	15Ω, 5W, Flame-Proof	1
CAPACITOR			
○ C1	ECEA50Y12K	12µF, 50V	1

■ WIRING PARTS

Ref. No.	Part No.	Description	Per/Set
○ W1	QEXG05014SSB	Connector with Wire	1
○ W2	QEXG14012SSA	Connector with Wire	1
○ W3	QEXG03016ZA	Connector with Wire	1
○ W4	QEXG08009SSA	Connector with Wire	1
○ W5	QEXG07002SSB	Connector with Wire	1
○ W6	QEXG13008SSB	Connector with Wire	1
W7	SWKG1515SSA	Connector with Wire	1
○ W8	QEXG04032SSA	Connector with Wire	1
○ W9	QEXG03020LTB	Connector with Wire	1
W10	SWKG0251ZA	Connector with Wire	1
○ W11	QEXG09006ZB	Connector with Wire	1
○ W12	QEXG06006ZA	Connector with Wire	1
○ W13	QEXG06007ZA	Connector with Wire	1

EXPLODED VIEWS OF CABINET





REPLACEMENT PARTS LIST.....Cabinet and Chassis Parts

Notes:

1. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
2. ○ mark are new parts.
3. For part No. with area mark, check the area when placing an order.
4. Cabinet colour
   - SX-PX55.....Black
   - SX-PX55M .....Walnut

SX-PX55 CABINET & CHASSIS PARTS

	Ref. No.	Part No.	Description	Per/Set
	SWITCHES			
	S1 ⚠	SSHG1050A	Power Switch	1
○	S2	SRDSMLS-2	Pedal Switch	3
	SPEAKERS			
	SP1, 2	EAS15S06B	13cm×6cm, 8Ω	2
	SP3, 4	SASG16PL03-F	16cm, 8Ω	2
	SP5, 6	EAS65PH31A	6.5cm, 8Ω	2
	TRANSFORMER			
	T1 M MC XM ⚠	SLTG5M31	Power Transformer	1
	T1 ⚠	SLTG5M30	Power Transformer, other areas	1
	POWER CORD & PLUG			
	PC1 EK XS XD ⚠	SJAG39	AC Power Cord	1
	PC1 XL XR ⚠	SJAG61	AC Power Cord	1
	PC1 M MC XM ⚠	SJAG62	AC Power Cord	1
	PC1 ⚠	SJAG41	AC Power Cord, other areas	1
	PC2 X ⚠	SJP5213-1	Attachment Plug, [X] only	1
	PC3 XD ⚠	SJPG1350A	Power Plug, [XD] only	1
	DIODE			
	D1	LN29RP	Power Indicator (LED)	1
	CABINET PARTS			
○	1	QGAG1006AA	Panel (Music Rack)	1
○	3	QGKG0016FA	Ornament (Music Rack)	1
○	4	QMFG1025BA	Felt (Music Rack)	2
○	5	QKQGA020AA	Top Cover (Music Rack)	1
○	6	QKQGF002AA	Sliding Cover Ass'y	1
○	6-1	QMQG0001CA	Spindle	1
○	6-3	QMGG005AA	Roller	2
○	6-4	QMFG1029AA	Felt	2
	6-5	SHGG1052A	Cushion	2
	6-6	SHSG4570A	Felt	4
○	7	QQLG018AA	MIDI Seal	1
○	8	QGPG0011AA	Control Panel	1
○	9-1	QMFG1035AA	Felt (Red)	1
○	9-2	QMFG4019AA	Felt	2
	10	SBNG7050A	Knob (Main Volume)	1
	11	SGEG260A	Ornament (Main Volume)	1
○	12	QGUG1031AA	Button (Transpose)	1
○	13	QGUG1033AA	Button (Sound)	1
○	14	QGUG1058AA	Button (Sound)	1
○	15	QGUG1037AA	Button (Brilliance etc.)	1

SX-PX55M CABINET & CHASSIS PARTS

	Ref. No.	Part No.	Description	Per/Set
	SWITCHES			
	S1 ⚠	SSHG1050A	Power Switch	1
○	S2	SRDSMLS-2	Pedal Switch	3
	SPEAKERS			
	SP1, 2	EAS15S06B	13cm×6cm, 8Ω	2
	SP3, 4	SASG16PL03-F	16cm, 8Ω	2
	SP5, 6	EAS65PH31A	6.5cm, 8Ω	2
	TRANSFORMER			
	T1 M MC XM ⚠	SLTG5M31	Power Transformer	1
	T1 ⚠	SLTG5M30	Power Transformer, other areas	1
	POWER CORD & PLUG			
	PC1 EK XS XD ⚠	SJAG39	AC Power Cord	1
	PC1 XL XR ⚠	SJAG61	AC Power Cord	1
	PC1 M MC XM ⚠	SJAG62	AC Power Cord	1
	PC1 ⚠	SJAG41	AC Power Cord, other areas	1
	PC2 X ⚠	SJP5213-1	Attachment Plug, [X] only	1
	PC3 XD ⚠	SJPG1350A	Power Plug, [XD] only	1
	DIODES			
	D1	LN29RP	Power Indicator (LED)	1
	CABINET PARTS			
○	1	QGAG1006AB	Panel (Music Rack)	1
○	3	QGKG0016FB	Ornament (Music Rack)	1
○	4	QMFG1025BA	Felt (Music Rack)	2
○	5	QKQGA020AB	Top Cover (Music Rack)	1
○	6	QKQGF002AB	Sliding Cover Ass'y	1
○	6-1	QMQG0001CA	Spindle	1
○	6-3	QMGG005AA	Roller	2
○	6-4	QMFG1029AA	Felt	2
	6-5	SHGG1052A	Cushion	2
	6-6	SHSG4570A	Felt	4
○	7	QQLG018AA	MIDI Seal	1
○	8	QGPG0011AA	Control Panel	1
○	9-1	QMFG1035AA	Felt (Red)	1
○	9-2	QMFG4019AA	Felt	2
	10	SBNG7050A	Knob (Main Volume)	1
	11	SGEG260A	Ornament (Main Volume)	1
○	12	QGUG1031AA	Button (Transpose)	1
○	13	QGUG1033AA	Button (Sound)	1
○	14	QGUG1058AA	Button (Sound)	1
○	15	QGUG1037AA	Button (Brilliance etc.)	1

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Ref. No.	Part No.	Description	Per/Set
○ 16	QGUG1038AA	Button (Digital Reverb etc.)	1
○ 17	QGUG1040AA	Button (Power Switch)	1
○ 18	QGKG0019DA	Jack Panel	1
19-1	QLZG001A	Core } all areas	1
19-2	SHRG1270A	Mounting Base } all areas	1
20-1 EZ M MC	QLZG001A	Core } [EZ][M][MC] [XL][XM], only	2
20-2 XL XM	SHRG1270A	Mounting Base } [EZ][M][MC] [XL][XM], only	2
○ 21	QKSGE005DA	Ornament	1
○ 22	SGBG160B	Technics Badge	1
23	SGWG2210B	End Cover Panel	2
24	SHSG3690A	Felt	2
STAND			
○ 25	QKQGB079AA	Left Plank Ass'y	1
25-1	〔SHRG2130B	Foot	3
○ 26	QKQGB080AA	Right Plank Ass'y	1
26-1	〔SHRG2130B	Foot	3
○ 27	QKUG1007AA	Rear Board (Speaker Box)	1
○ 28	QKQGL004AA	Speaker Box Ass'y	1
○ 29	QEXG06006ZA	Connector with Wire	1
○ 30	QKQGM004AC	Pedal Box Ass'y	1
○ 30-1	〔QMFG1039AA	Felt (Red)	3
31	SHRG1230A	Cord Clamper	2
32	SHRG9620A	Cord Clamper	5
○ 33	QJLG002AB	Pedal Cord	1
○ 34	QMWG8005AB	Pedal Switch Case	3
○ 35	SUSG441A	Spring	3
36	SHSG2790A	Felt	3
37	SHSG2750A	Felt	3
38	SHSG2770A	Felt	3
○ 39	STBG3115A	Pedal Arm	3
40	SKLG160A	Foot	1
41	SHRG1130A	Cord Clamper	1
MANUAL KEYBOARD			
42	STBGA1050A	White Key (First Octave A Key)	1
43	STBGA1060A	White Key (B Key)	8
44	STBGA1070A	White Key (C Key)	7
45	STBGA1080A	White Key (D Key)	7
46	STBGA1090A	White Key (E Key)	7
47	STBGA1100A	White Key (F Key)	7
48	STBGA1110A	White Key (G Key)	7
49	STBGA1120A	White Key (A Key)	7
50	STBGA1130A	White Key (Top Octave C Key)	1
51	STBG2920A	Black Key	36
52	SUSG531A	Spring	88
○ 53	QMWG9006AA	Hammer (Black Key)	36
○ 54	QMWG9005AA	Hammer (White Key)	52
55	SHGG9121A	Rubber Cap (Hammer)	88
56	SHRG9900A	Key Guide Rubber	88
57	SHSG5910A	Felt	52
○ 58	QMFG4021AA	Felt	2
○ 59	QMWG8004AB	Fulcrum (4 pcs.on one)	1
○ 60	QMWG8003AB	Fulcrum (12 pcs.on one)	7
○ 61	QMFG1036AA	Felt	3
62	SHRGA9080A	Sponge	2
○ 63	QMFG1030AB	Felt	2
64	SHSG3461A	Felt	1
65	SHSG3892A	Felt	2
66	SHSG2670A	Felt	1

SX-PX55M

Ref. No.	Part No.	Description	Per/Set
○ 16	QGUG1038AA	Button (Digital Reverb etc.)	1
○ 17	QGUG1040AA	Button (Power Switch)	1
○ 18	QGKG0019DB	Jack Panel	1
19-1	QLZG001A	Core } all areas	1
19-2	SHRG1270A	Mounting Base } all areas	1
20-1 EZ M MC	QLZG001A	Core } [EZ][M][MC] [XL][XM], only	2
20-2 XL XM	SHRG1270A	Mounting Base } [EZ][M][MC] [XL][XM], only	2
○ 21	QKSGE005DB	Ornament	1
○ 22	SGBG160B	Technics Badge	1
23	SGWG2210B	End Cover Panel	2
24	SHSG3690A	Felt	2
STAND			
○ 25	QKQGB079AB	Left Plank Ass'y	1
25-1	〔SHRG2130B	Foot	3
○ 26	QKQGB080AB	Right Plank Ass'y	1
26-1	〔SHRG2130B	Foot	3
○ 27	QKUG1007AB	Rear Board (Speaker Box)	1
○ 28	QKQGL004AB	Speaker Box Ass'y	1
○ 29	QEXG06006ZA	Connector with Wire	1
○ 30	QKQGM004AB	Pedal Box Ass'y	1
○ 30-1	〔QMFG1039AA	Felt (Red)	3
31	SHRG1230A	Cord Clamper	2
32	SHRG9620A	Cord Clamper	5
○ 33	QJLG002AB	Pedal Cord	1
○ 34	QMWG8005AB	Pedal Switch Case	3
○ 35	SUSG441A	Spring	3
36	SHSG2790A	Felt	3
37	SHSG2750A	Felt	3
38	SHSG2770A	Felt	3
○ 39	STBG3115A	Pedal Arm	3
40	SKLG160A	Foot	1
41	SHRG1130A	Cord Clamper	1
MANUAL KEYBOARD			
42	STBGA1050A	White Key (First Octave A Key)	1
43	STBGA1060A	White Key (B Key)	8
44	STBGA1070A	White Key (C Key)	7
45	STBGA1080A	White Key (D Key)	7
46	STBGA1090A	White Key (E Key)	7
47	STBGA1100A	White Key (F Key)	7
48	STBGA1110A	White Key (G Key)	7
49	STBGA1120A	White Key (A Key)	7
50	STBGA1130A	White Key (Top Octave C Key)	1
51	STBG2920A	Black Key	36
52	SUSG531A	Spring	88
○ 53	QMWG9006AA	Hammer (Black Key)	36
○ 54	QMWG9005AA	Hammer (White Key)	52
55	SHGG9121A	Rubber Cap (Hammer)	88
56	SHRG9900A	Key Guide Rubber	88
57	SHSG5910A	Felt	52
○ 58	QMFG4021AA	Felt	2
○ 59	QMWG8004AB	Fulcrum (4 pcs.on one)	1
○ 60	QMWG8003AB	Fulcrum (12 pcs.on one)	7
○ 61	QMFG1036AA	Felt	3
62	SHRGA9080A	Sponge	2
○ 63	QMFG1030AB	Felt	2
64	SHSG3461A	Felt	1
65	SHSG3892A	Felt	2
66	SHSG2670A	Felt	1

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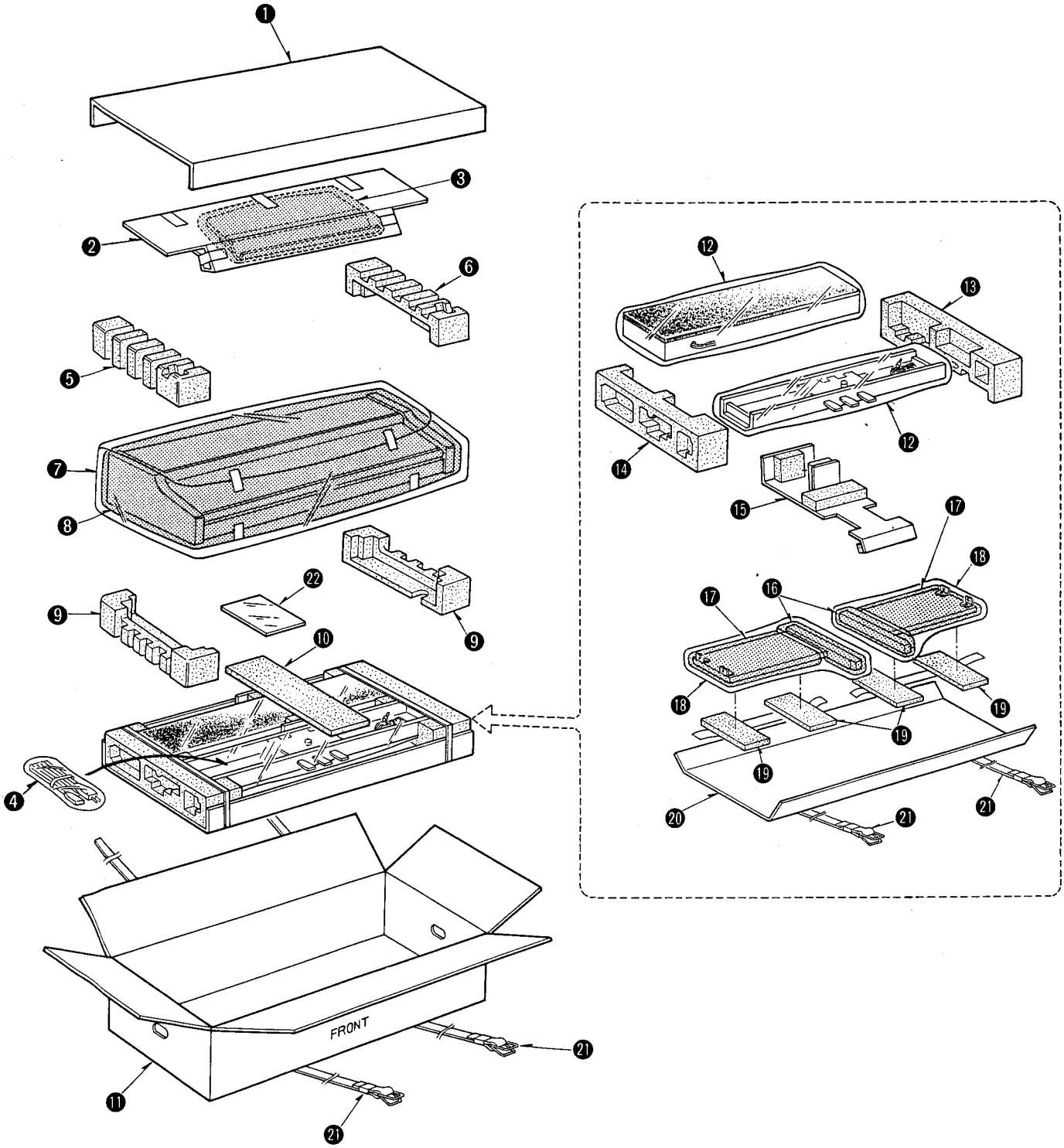
Ref. No.	Part No.	Description	Per/Set
67	SHSG3552A	Felt	2
68	SHSG3451A	Felt	2
69	SHRG7301A	Sponge	1
70	QMWG6001AA	Actuater	11
71	QMWG6003AA	Membrane Sheet	2
72	QMWG6002AA	Membrane Sheet	4
73	SHRG9751A	P.C.B. Holder	24
SCREWS & WASHERS			
N1	XTT4+12AFZ	Screw	2
N2	SNEG1880A	Screw	3
N3	XYN3+F6FZ	Screw with Washer	2
N4	XTV3+8J	Screw	9
N5	XTV3+10B	Screw	8
N6	XYN4+F25FZ	Screw with Washer	4
N7	XTB35+12A	Screw	13
N8	XTB3+14GFZ	Screw	2
○ N9	QHDG004AA	Screw	2
N10	XTB35+12AFZ	Screw	12
N11	XTB3+10A	Screw	1 (3)
N12	XTT4+25AFZ	Screw	16
N13	XYN5+F16	Screw with Washer	3
N14	XTB4+12A	Screw	10
N15	SNEG2660A	Screw	4
N16	SNEG150B	Washer	5
N17	XYN5+C25FZ	Screw with Washer	5
N18	SNEG1780A	Retaining Ring	1
N19	SNEG1770A	Retaining Ring	1
N20	SNEG2280A	Bolt (Black)	4
N21	SNEG2330A	Bolt (Brown)	4
N22	SNEG2280A	Bolt (Black)	4
N23	SNE499-1	Nut	8
N24	XTT4+12A	Screw	8
○ N25	QHDG004AA	Screw	2
N26	XTB35+16AFZ	Screw	4
N27	XTW3+16JFZ	Screw	8
N28	XTB35+14A	Screw	2
N29	XYN4+F16FZ	Screw with Washer	3
N30	XTW3+8L	Screw	4
N31	XTW3+8C	Screw	11
N32	XTB3+6C	Screw	1
N33	XSN4+8	Screw	3
N34	XYN4+C25	Screw with Washer	1
N35	XYN5+C6FZ	Screw with Washer	1
N36	XTW3+10T	Screw	25

SX-PX55M

Ref. No.	Part No.	Description	Per/Set
67	SHSG3552A	Felt	2
68	SHSG3451A	Felt	2
69	SHRG7301A	Sponge	1
70	QMWG6001AA	Actuater	11
71	QMWG6003AA	Membrane Sheet	2
72	QMWG6002AA	Membrane Sheet	4
73	SHRG9751A	P.C.B. Holder	24
SCREWS & WASHERS			
N1	XTT4+12AFVC	Screw	2
N2	SNEG1880A	Screw	3
N3	XYN3+F6FZ	Screw with Washer	2
N4	XTV3+8J	Screw	9
N5	XTV3+10B	Screw	8
N6	XYN4+F25FZ	Screw with Washer	4
N7	XTB35+12A	Screw	13
N8	XTB3+14GFVC	Screw	2
○ N9	QHDG004AB	Screw	2
N10	XTB35+12AFVC	Screw	12
N11	XTB3+10A	Screw	1 (3)
N12	XTT4+25AFVC	Screw	16
N13	XYN5+F16	Screw with Washer	3
N14	XTB4+12A	Screw	10
N15	SNEG2660A	Screw	4
N16	SNEG150B	Washer	5
N17	XYN5+C25FZ	Screw with Washer	5
N18	SNEG1780A	Retaining Ring	1
N19	SNEG1770A	Retaining Ring	1
N20	SNEG2330A	Bolt (Brown)	4
N21	SNEG2330A	Bolt (Brown)	4
N22	SNEG2280A	Bolt (Black)	4
N23	SNE499-1	Nut	8
N24	XTT4+12A	Screw	8
○ N25	QHDG004AA	Screw	2
N26	XTB35+16AFZ	Screw	4
N27	XTW3+16JFZ	Screw	8
N28	XTB35+14A	Screw	2
N29	XYN4+F16FZ	Screw with Washer	3
N30	XTW3+8L	Screw	4
N31	XTW3+8C	Screw	11
N32	XTB3+6C	Screw	1
N33	XSN4+8	Screw	3
N34	XYN4+C25	Screw with Washer	1
N35	XYN5+C6FZ	Screw with Washer	1
N36	XTW3+10T	Screw	25

PACKING



SX-PX55 PACKING PARTS

Ref. No.	Part No.	Description	Per/Set
○ 1	QPGG0049AA	Top Cardboard	1
○ 2	QPGG0046BA	Music Rack Cardboard	1
3	SPHG1490A	Protection Sheet	1
4	SPHG810A	Polyethylene Bag	1
○ 5	QPNG0072AA	Upper Pad (Left)	1
○ 6	QPNG0073AA	Upper Pad (Right)	1
7	SPHG1110A	Polyethylene Bag	1
8	SPHG2120A	Protection Sheet	1
○ 9	QPNG0074AA	Lower Pad	2
○ 10	QPNG0075AA	Spacer	1
○ 11	QPGG0048AA	Carton	1
12	SPHG1570A	Polyethylene Bag	2
○ 13	QPNG0076AA	Side Pad	1
○ 14	QPNG0077AA	Side Pad	1
○ 15	QPNG0069AA	Pad	1
16	SPHG1730A	Protection Sheet	2
17	SPHG1580A	Protection Sheet	2
18	SPHG2050A	Polyethylene Bag	2
○ 19	QPNG0068AA	Spacer	4
○ 20	QPGG0049AA	Stand Cardboard	1
21	SPSG40A	Band	4
INSTRUCTION BOOK			
○ 22 M	QQFGPX55BA	[M] area	1
○ 22 EN	QQFGPX33VAA	[EN] area	1
○ 22	QQFGPX33VCB	other areas	1

SX-PX55M PACKING PARTS

Ref. No.	Part No.	Description	Per/Set
○ 1	QPGG0049AA	Top Cardboard	1
○ 2	QPGG0046BA	Music Rack Cardboard	1
3	SPHG1490A	Protection Sheet	1
4	SPHG810A	Polyethylene Bag	1
○ 5	QPNG0072AA	Upper Pad (Left)	1
○ 6	QPNG0073AA	Upper Pad (Right)	1
7	SPHG1110A	Polyethylene Bag	1
8	SPHG2120A	Protection Sheet	1
○ 9	QPNG0074AA	Lower Pad	2
○ 10	QPNG0075AA	Spacer	1
○ 11	QPGG0048AB	Carton	1
12	SPHG1570A	Polyethylene Bag	2
○ 13	QPNG0076AA	Side Pad	1
○ 14	QPNG0077AA	Side Pad	1
○ 15	QPNG0069AA	Pad	1
16	SPHG1730A	Protection Sheet	2
17	SPHG1580A	Protection Sheet	2
18	SPHG2050A	Polyethylene Bag	2
○ 19	QPNG0068AA	Spacer	4
○ 20	QPGG0049AA	Stand Cardboard	1
21	SPSG40A	Band	4
INSTRUCTION BOOK			
○ 22 M	QQFGPX55BA	[M] area	1
○ 22 EN	QQFGPX33VAA	[EN] area	1
○ 22	QQFGPX33VCB	other areas	1